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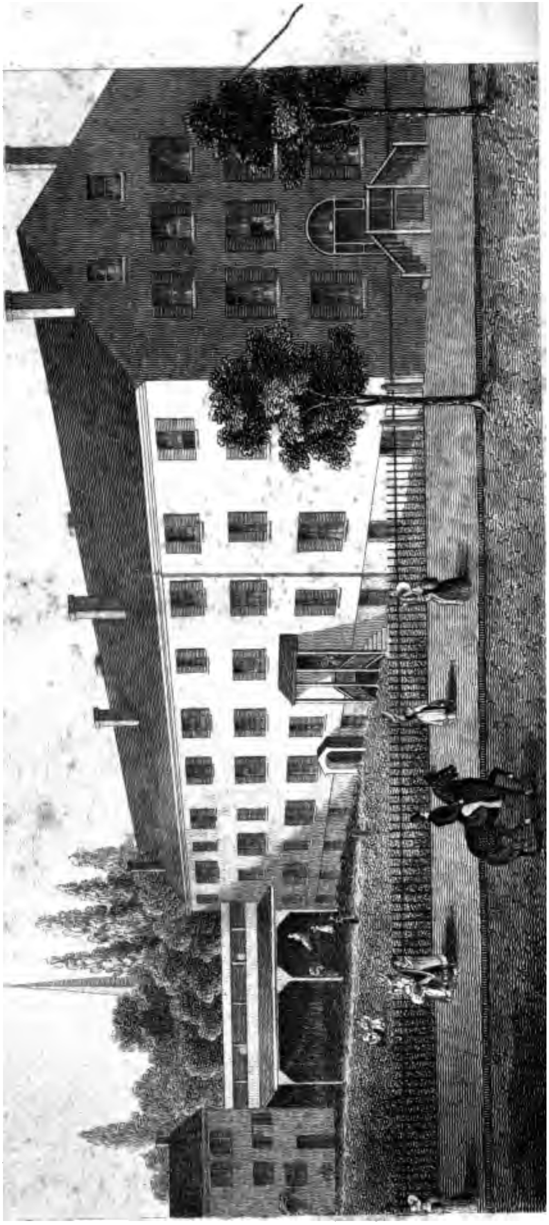

THE

EMALE STUDENT;

OR,

LECTURES TO YOUNG LADIES

ON

FEMALE EDUCATION.

FOR THE USE OF MOTHERS, TEACHERS, AND PUPILS.

By Mrs. PHELPS,
(Late Vice-Principal of Troy Female Seminary,)
AUTHOR OF FAMILIAR LECTURES ON BOTANY, CHEMISTRY, AND
BOTANY FOR BEGINNERS, GEOLOGY, ETC.

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DEDICATION.

To MAD^{ME} LOUISE S. W. BELLOC,
AND
MAD^{LLE} ADELAIDE DE MONTGOLFIER,
OF FRANCE.

To you, sisters in affection, united in your efforts to promote human virtue and improvement, and associated with the friend and benefactor of America, the good Lafayette, in the important care of selecting a national library for your beloved country, the following pages are respectfully inscribed by one, who is proud to have been acknowledged by you as a friend, and a fellow-laborer in the cause of education. For this distinguished honor, and the affection manifested by you for my sister, during her residence in France, permit me, thus publicly, to express my gratitude. May the friendship which, in so interesting a manner, has been commenced between us, be elevated and permanent in its nature, as the objects which have given rise to it are noble and imperishable.

ALMIRA H. LINCOLN PHELPS.

Mont Cervus, Guilford, Vermont.

PREFACE.

THE following Lectures were delivered to the pupils of Troy Female Seminary, while the Author had the charge of that Institution, during the absence of the Principal, in Europe, in 1830 and 1831.

The object of these Lectures was to awaken in the minds of the pupils, habits of thought with respect to the nature and design of education, and the practical application which ought to be made of its various branches. The young ladies to whom they were addressed were pursuing studies of different kinds; and it was important that they should know the "*why* and the *wherefore*," with the broad and general principles of literature and science. Their teachers in the individual classes would no doubt endeavor to point out these; but every teacher is well aware, that, by long dwelling upon a particular department of education, he becomes minute; and that there is always danger that the general scope of a science may be lost sight of, in the microscopic views which he is obliged to take.

It was intended in these Lectures to exhibit the nature and objects of female education, with outlines of the various sciences connected with it: in most of these, the author had at different periods personally instructed, and her views of them are the result of her own experience and observation.

But it is not without hesitation that I now unveil to public observation those scenes ever to be remembered, when, surrounded by a numerous assembly of young females,* I endeavored to impress upon their intellects the truths of science, and upon their hearts, the love of virtue and the sentiments of religion. Although the partial affection of these young ladies led them to believe that my instructions might be useful to others, strangers may judge differently: they may view with the cold eye of criticism, attempts to do good, which were prompted by a warm heart, and zeal to elevate the female character, and to discharge a sacred trust committed to me.

It has been suggested by teachers of experience, that these Lectures would prove a valuable assistant in education, by affording a kind of Synopsis for weekly reviewing lessons, in the various departments of study, as well as a suitable reading book for young ladies, in the school and in the family.

Amongst the numerous works on education which are now before the public, the author knows of none similar in plan to this. Abridgments and compilations differ much from compounds, which, though formed of previously existing elements, come fresh from the crucible of thought, bearing upon them the stamp and image of the author's own mind.

The names which appear in the dedication of this work may not be extensively known in this country. To those not conversant with current French literature, the most distinguished living writers are not generally known; and, until time shall have engraven their names upon the records of history, they will scarcely be celebrated in our country, while the names of the distinguished women of England are almost as familiar, as if the Atlantic did not separate us. The reason of this is obvious: we speak and write a common language; and thought, meeting with no impediment, is wafted across the ocean with a rapidity almost equal to its own operations. Thus the name and writings of Miss Edgeworth, are known to almost every child of our country, while those of Mad^{me} Belloc, and Mad^{lle} Montgolfier, are by no means familiar to most American readers. These two ladies, with a singular devotion of friendship, mutually share in fortune, literary labor, and fame.* They have been connected with M. Jullien, one of the most enlightened men of the age, in conducting the *Revue Encyclopedique*, a distinguished Literary Journal of Paris; they take a deep and active interest in many of the schools and charitablei nstitutions of France; and the literature of their country is enriched by their valuable and joint productions.†

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* The number of pupils was nearly two hundred.

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* Madame Belloc in a letter to myself, says: "J'ai pour aide une *autre moi*, meilleur que moi, et plus capable d'accomplir: c'est une amie, une sœur d'adoption, avec laquelle, depuis douze ans, je suis à moitié de tout; peines, plaisirs, travaux, familles, nous avons tout en commune. C'est en son nom autant qu'au mien que je vous remercié de votre lettre, et que je réclame un peu de votre amitié. J'aime à pensée qu'avec vous, Madame, nous nous trouverons comme avec Madame Willard, liées d'une longue et ancienne amitié par de profonds rapporte de pensée et de gout."

† For further notice of these ladies, the reader is referred to Mrs. Willard's "Journal, and Letters from France and England."

PREFACE TO THE SECOND EDITION.

This edition is considerably enlarged, and, I flatter myself, will be found improved.

The work consists of the following parts:

I. PRELIMINARY VIEWS ON EDUCATION IN GENERAL.
II. PHYSICAL EDUCATION.
III. INTELLECTUAL CULTIVATION.
IV. ACCOMPLISHMENTS.
V. MORAL AND RELIGIOUS EDUCATION.
VI. THE PROFESSION OF TEACHING.

The subject of Physical Education is treated of more at large than in the former edition. The Lectures on Moral and Religious Education, and on Teaching, were designed as an introduction to a volume which I had intended to have published before this, as a sequel to the "Lectures to Young Ladies."

The proposed object of this volume is, the *consideration of the duties of females after completing their school education, and in the various relations of life*. This intended publication has not been delayed through indifference to the cause to which so great a portion of my life has been devoted, but because there seemed to be an immediate want of elementary works in some departments of education, which, from experience in teaching, I was led to think I might in some measure supply. My Lectures on Botany required considerable additions, in order to supply the information sought for by the more advanced student: and this enlargement of that work, again creates the necessity for a less expensive book for younger pupils, and for common schools. A Chemistry and Geology for beginners were needed, to render instruction in those branches of natural science more common and familiar; and to the preparation of these works, especially the former, considerable time has been devoted. In addition to these labors, has been that of editing the excellent work of Madame Necker de Saussure on "Progressive Education," which will be a valuable precursor to the one which I design to offer my sex upon their peculiar duties. Whether this, my favorite plan, will ever be accomplished, must, like all our projects, depend on the will of an overruling Providence, at whose disposal are the life, health, and reason of man. But though I may not be permitted to be useful in the manner I could wish, I have the happiness of believing, that when those who are now active in the cause of female improvement, shall have passed away, the impulse which the female mind has received, will urge forward from among the sex, new and abler advocates, who will exert a more powerful influence in favor of truth and virtue.

As novelists and poets, women have long been among distinguished writers; they have been considered as highly gifted with imagination, and the power of awakening feeling and sympathy by the creations of fancy. The fondness of the sex for reading works of fiction is proverbial. But are not the authors of such works laboring to prepare for the readers of them, that kind of food, which, so far from rendering the mental system strong and healthy, disorders and enfeebles it? Novels and poetry are indeed the flowers of literature; they afford opportunity for the display of genius, and are pleasant companions for an idle or heavy hour. They may exhibit virtue in an attractive light, and inspire a kind of enthusiasm in the reader to imitate the noble examples of heroes and heroines. But I would appeal to the experience of every female who has indulged herself much in this kind of reading, whether, after the excitement of feeling occasioned by the perusal of some fascinating novel, she has returned to the realities of life with a spirit calmed, and prepared to meet its realities with fortitude and resignation? or whether she has not at such times experienced a distaste, almost amounting to disgust, for the homely beings with whom reality surrounded her, and for the every day scenes of life? And has it not required a strong and painful effort to regain that mental equilibrium so necessary for prudent conduct and amiable deportment?

> "For yet, alas! the real ills of life,
> Prepared for patient, long, laborious strife,
> Claim the full vigor of a mind prepared,
> Its guide *experience*, and *truth* its guard."

The virtues which appear with eclat on the pages of fiction, are not the humble, unobtrusive ones of common life, and which, in reality demand the greatest efforts, and exhibit the best regulated minds;—the trials which excite our sympathy in these creations of fancy are seldom those of real life. False views are thus given of our own duties, and what we ought to expect from others.

At the time when that wonderful genius, Walter Scott, was producing one novel after another with a rapidity which his readers could scarcely keep pace with, a young married lady whose taste strongly inclined her to works of this nature, but who had abstained from reading them, lest they might interfere with her new domestic duties, was induced, by the wishes of her husband, to commence with him the Waverley novels for their evening reading: but the pages were far too fascinating to be laid aside at the usual hour for repose; there was no cessation [illegible] volumes were closed. An [illegible] son lay in [illegible] too conscientious to keep an [illegible] awake [illegible] ending vigils, attempted her- [illegible] gh quiet. He was sometimes [illegible] re admonished him, that, in the cold of a win- [illegible] to be warmed and cherished in a mother's [illegible] he would sometimes cry;—perhaps at the very mo- [illegible] when Jeannie Deans was about to make her eloquent appeal to the queen, the infant would make his plea for a mother's care: the story must then be broken off, while, with a feeling of disappointment, almost amounting to impatience, the maternal duties were performed. But the healthy and beautiful child was seized with an acute disease, which terminated in his removal from this world; and tho[illegible] the mother could not accuse herself of actual neglect, she [illegible] conscious of having had her thoughts too much diverted [illegible] her child, by the fictitious scenes in which she had permitted her imagination to rove. She was wholly unprepared to meet such an affliction; and, turning from novels to her Bible, sought for peace and consolation in the promises of Him who is "the resurrection and the life." Those books which had drawn her thoughts from her lovely infant, she could not, for a long time endure to behold; and from thence forward she renounced them all, in the settled conviction, that females, especially when young, by indulging in novel-reading, do in a degree unfit themselves for the proper discharge of their duties.

Those who are gifted with the power to influence the minds of their fellow-beings, should beware how they exert this influence! Is it enough that they amuse, astonish, and delight mankind? This, too, the mountebank or opera-dancer may do. But as sure as there is a future state of retribution, so there is a moral influence to be exerted by every human being, according to the measure of his abilities. And where can this influence be more powerfully, more extensively exercised, than through the medium of the press? Although our voice be feeble, yet if our testimony is on the side of truth, it may have an influence on the feeble-minded, even greater than more powerful accents. It will be heard when we shall be removed to another tribunal than that of literary criticism, where the flashes of genius are too often preferred to the light of virtue. But in that great and last tribunal, we shall be judged according to the *motives* with which we have written, and not the *ability* with which we have executed our task.

A. H. L. P.

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THE FEMALE STUDENT.

PART I.

Preliminary Views on Education in general.

LECTURE I.

Departure of the principal.

My Dear Pupils,

We assemble to-day under new and interesting circumstances; the Principal of our Institution has bade us adieu, and in leaving her native country for a season, she has entrusted me with her duties and responsibilities towards you. Every receding wave is now bearing her from us, and her loved and cherished institution. The affectionate and admonitory words which she spake, at parting, are yet fresh in our minds; and we, like the Ephesians, when St. Paul tore himself from them, sorrow most of all lest we may see her face no more. But let us hope that her life may be preserved, and that she may be restored to us with renewed health, and a mind enriched by observations of the state of female education in foreign countries, and with increased facilities for usefulness in her own.

I behold in the kind and affectionate expression of the youthful countenances before me, that with all the frankness of your years, you are ready to give your love and confidence. I shall need them to encourage me in the performance of my duties. But a few short years ago, and like you I was looking forward with joyous anticipation to the opening scenes of life; they did, indeed, open fair and bright, but death entered the sanctuary where were garnered up my hopes and my affections, and swept them into the grave. As the shipwrecked mariner, after a night of tempest, awakes to the consciousness that he is left alone upon the wide waters, so did I find myself a solitary being on the ocean of life. I would willingly have yielded myself up as a waif and wreck, with nothing to do and nothing to hope for; but reason and religion came to my aid, and conducted me into the port of usefulness and duty. Here I see many young immortals needing my care and instruction: this surely ought to be sufficient to rouse and call into action all the faculties of my soul! In devoting myself to your improvement I shall enjoy a consciousness of being useful, which, when connected with a proper dependence on Divine aid, can impart that "peace which the world can neither give nor take away." Yet, standing as I now do, the representative of so many parents, charged with their anxieties and duties, and with the general superintendence of a little community, combining so great a variety of character and disposition, I cannot but feel an anxious solicitude lest I may not fulfil the expectations of the public, of the teachers and pupils of the institution, and especially the requirements of my own conscience. But may I not count upon each one of you as a friend, ready to give me your encouragement and aid upon all occasions when they can be useful? These occasions, my dear pupils, will be many; to you I must look for industry, to sustain by your improvement the character the institution has already acquired. You must aid me in maintaining good order and discipline, and by your obedience and affectionate deportment, towards your teachers, in rendering their duties pleasant.

It is my intention to devote a portion of time, on each Saturday, to giving general instruction on subjects connected with literature, morals, and religion. In these Lectures, I propose to consider the nature and objects of education, the various branches of study, with their practical application, female manners and accomplishments, and the peculiar duties of woman in her domestic relations, towards society, and towards her Maker. It is of vast importance that you should entertain just views of the bearing which the ideas you now acquire, and the habits you now form, will have upon your future destinies both for time and eternity. As I look around upon so many young and happy faces, and consider the changes which a few years will produce, my emotions are too powerful for expression. I see in the gay, unreflecting girl, the future wife, the mother, and the candidate for immortality, having power not only over her own destiny, but capable of wielding vast influence over other immortal beings. Impressed as these solemn realities are upon my mind, I may, at times, seem to expect from you too much seriousness and reflection, at an age when gayety and thoughtlessness are so natural.

Far be from me the wish to check the spontaneous cheerfulness of your young hearts, to see you sorrowful and desponding, or to expect in you an unnatural precocity of judgment and forethought. The world will soon enough change the buoyancy of youthful glee into heaviness. Enjoy, then, this spring time of your existence, this morning of life; but enjoy with moderation, and spare something from the exuberance of your emotions, to soften and cheer the sober and pensive season, which, should your lives be spared, will as assuredly follow, as evening follows morning, or as spring is succeeded by autumn. Should you see a group of happy children, sporting near the border of some dreadful precipice, which they in their childish glee heeded not, would you think it unkind to check them in their mirth, in order to point out their danger? Or, if one should chance to have strayed to the verge of the precipice, would you hesitate to seize him even somewhat roughly, in order to save him from destruction? Think it not, then, my dear girls, unkind in those, who by the light of experience, see dangers to you invisible, if they raise a warning voice, if they give a temporary check to your gayety, in order to avert evils which they see impending over you. The eye of experience sees before you trials of virtue, affliction, pain, and death; and "after death cometh the judgment." In view of these solemn and momentous interests, I cannot but watch with deep anxiety and solicitude, even your slightest actions; these, though individually of little consequence, appear of vast importance when considered as indications of future character.

All human beings must suffer pain, and sorrow: but on woman do the evils incident to human existence fall with peculiar force. Her heart is sensitive, and her spirits are easily elated or depressed: the delicacy of her nervous system subjects her to agitations to which man, favored by greater physical strength, and more firmness of nerve, is exempt. Subject to caprice, she needs the balance of intellectual discipline; and, above all, does she require the aid of religious principles to enable her to overcome the weakness to which her mind, owing to a peculiar physical organization, is subject.

How much of pain and sickness is the delicate frame of woman called to endure! What is more trying to the mind than personal suffering? She must experience the anguish of watching over the distresses of others; of witnessing death in its triumph over the objects of her affections. Yes, you whose hearts now beat high with expectation, who are eager to pluck the rosebuds of delight with which the world is tempting you, are to see the flowers wither in your hands, and to feel yourselves pierced with the thorns which are now concealed from your view. You may be destined to watch over the couch of sick and dying friends, of parents, brothers and sisters, and perhaps to perform the last sad offices for some of these your companions, who are now before you glowing with health and beauty. Some of you will mourn over dying children, some will experience the sorrows and desolation of widowhood; and all sooner or later will taste of death, the common lot of mortals.

In uttering these predictions I am not arrogating to myself a supernatural foresight; life, with some slight variations, will be to you, as to those who have gone before you. The smaller circumstances, the filling up of the picture, time only will exhibit, but the outlines are too darkly and plainly shaded not to be manifest to the prophetic eye of experience. Within the last seven years, many pupils whom I have been accustomed to meet in this place, and who like you were full of hope and anticipation, have gone forth into the world, only to prove its vanity and falsehood. Some have felt the bitterness arising from the consciousness of having bestowed their young affections upon unworthy objects; some have pined in secret over a hopeless attachment, while others, after having been flattered and worshiped as angels, have been left to the heart-rending condition of deserted and neglected wives. Some who, to appearance, were happily settled in life, have been called to leave their beautiful and elegant homes, the arms of fond affection, with all the charms of domestic life, and to lie down in the grave. The most devoted love, the most extensive wealth,

"Could give no more
Than earth enough to make her narrow bed."

Even the young and beautiful, when the seal of death is upon her, is given up to corruption, and the worm feeds sweetly upon its victim.

Is there not enough, then, my beloved pupils, in view of the various trials, which are incident to woman, and especially in view of the final destination of all human beings, to bring you to reflection? And oh, that you may lift up your hearts in prayer, and beseech your heavenly Father to fit you for the performance of your duties in life, and the patient suffering of your trials, and that thus you may be purified, and made meet for a holier and happier world!

"Woman's lot is on you! silent tears to weep,
And patient smiles to wear through suffering's hour,
And sumless riches from affection's deep
To pour on broken reeds—a wasted shower!
And to make idols, and to find them clay,
And to bewail that worship! therefore pray!
Earth will forsake—Oh! happy to have given
Th' unbroken heart's first fragrance unto Heaven!"

LECTURE II.

It is of great importance that you should understand your own characters, the motives which are now most powerful in influencing your conduct, and the preparations you are making for futurity, both as it respects this life and that which is to come. And yet, how few young persons do reflect deeply upon these things; how often are they careless of the seeds which may be taking root in their minds. What should we think of a farmer, who was either idle in spring, or indifferent whether good seed, or such as would bring forth useless, noxious weeds, were sown upon his grounds? But what is the product of a farm, compared with the fruits of the human mind? The former, like all worldly goods, transient and perishable; the latter, treasured up in the great record of human actions, and made the criterion by which the destiny of the immortal soul is fixed for eternity.

Let us suppose each one of you asking herself, For what purpose am I placed in this institution, and how am I improving the advantages here offered me? After searching into your own hearts, let conscience make her report; happy indeed are those who will not stand self-accused at that tribunal of moral feeling, which the Almighty has established in your own minds for the regulation of your conduct.

The different individuals now before me, with respect to their peculiar views, motives, and characters, may perhaps with propriety be arranged into four classes. Some of you may think me severe in what I am going to say, but like the physician, I must consider the nature of your maladies, in order to point out the remedies. Were you diseased, without any means of cure, cursed with certain moral stains which were irrevocably fixed, I "would lay my hand upon my mouth," and utter no words of reproach to a misery so hopeless. But, blessed be God, a renovating principle is ever ready to operate, if human beings will yield themselves to its influences. Conscience, like a faithful monitor, is ever warning us of our own danger, and the grace of the Holy Spirit is given to guide us in the path of virtue and happiness.

I observed, that you might, with respect to your present characters, be considered as constituting four distinct classes; they are the following: *the idle and careless, the gay and fashionable, the moral, and the pious.*

I shall first consider the *idle and careless,* those who think only of present gratification. This class, I am sorry to say, is but too numerous among school-girls. Many of you have been nursed in the lap of affluence and ease, accustomed from your infancy to all the gratifications which parental fondness, aided by wealth, could bestow: alas! how little does the doting parent reflect when tenderly nurturing a beloved child, that he may be administering a slow poison, which will infuse itself through the whole moral system, and in future years render his child imbecile and degraded!

Luxury has an injurious effect upon our moral natures. Do you doubt this? Look into the history of nations and of individuals, and you will see them almost uniformly corrupted by luxury. The Romans were virtuous, until enriched by the spoils of vanquished nations. Our own ancestors in the primitive poverty and simplicity of the early days of our country, showed themselves capable of

ıd noble actions. Their descendants, enriched by
commerce, and manufactures, are, it is to be feared,
rating from the lofty character which was exhibited
fathers of the revolution, and their unostentatious
ınd sisters. And yet wealth does not, necessarily
t the mind: when properly used, it furnishes the
of doing good to others; of assisting to promote the
lesigns of such as possess vast benevolence, with-
pecuniary means of carrying their plans into effect.
ı enables its possessors to purchase valuable books,
. interesting works of nature and art, to gain assist-
rom the talents and information of others, and be-
he leisure for mental cultivation.

t how do idle and careless pupils view the wealth
their parents are careful shall follow them to this
? How do they spend the money thus lavished
hem?—Besides furnishing themselves on all com-
casions with those eatables so injurious to health,
nsequently to mental energy, we see some descend-
en to bribe domestics to purchase dainties, at times
a manner forbidden by the rules of the institution?
re the hours not appropriated to study spent by such
l? in writing letters to gladden the hearts of absent
? in looking into the state of her wardrobe, and
ng such articles of dress, as may need it? in putting
m in order? in paying and receiving the visits of an
ting and intelligent friend? in the perusal of instruc-
oks, or in anticipating some of the coming school
ses in order to be prompt in all her duties? Would
might believe that thus all of you did spend the
which are at your own disposal; but however un-
nt the thought, it cannot be disguised that such
ıs are very differently passed by the idle and careless.

Should we enter the room of such a pupil on a Wednesday or Saturday afternoon, we might see her sitting by a basket of nuts, fruit, or confectionary—her dress slatternly, her hair disordered, and the appearance of her apartment in perfect harmony with that of its mistress. Dismissing this disgusting picture, let us consider the effect of such sensual indulgence. Our young miss awakes in the morning with a head-ache, she goes to the breakfast-table with a loathing for simple and wholesome food; when the bell rings for study she sits down with a listless and vacant mind, opens a book, looks upon the page, and perhaps reads the words; but if she attempts to investigate a subject which requires any effort of mind, she finds herself inadequate to the task. At length the hour for recitation arrives, and the idle and careless pupil appears before her teacher and classmates with the degraded sense of her own mental inferiority, and stammers out an excuse about the head-ache, want of time, &c. We might follow the same pupil to the public examination, and see her exposing her ignorance to the chagrin of her friends, the mortification of her teacher, and her own confusion. I have already dwelt longer upon this character than I intended; much more might with truth be said, to heighten the deformity of the picture, but I gladly turn from it; but if any can see in it her own likeness, let me hope that she may be induced to throw aside those habits so injurious to mental improvement, and attempt to render herself worthy of a dignified and honorable station in society.

At the tender moment of parting with a daughter, to leave her among strangers, a father is very apt, as a last act of kindness, to bestow a liberal amount of pocket-money; and the mother and sisters often feel themselves bound to show their affection by enclosing money in letters.

Alas, they little know the injury of this ill-judged kindness, specially on those who are addicted to self-indulgence.

The next class of pupils which we are to consider includes the *gay and fashionable;* those whose highest obect in the attainment of an education is to enable themselves to *show off* in circles of fashion, *to seem to be* amiable and learned, instead of being so. We often see such exhibiting, in the pursuit of certain branches of education, a becoming diligence: they are faithful to their lessons in music, dancing, drawing; and, stimulated by the wish of making a figure at examinations, they are sometimes found among the best scholars in literary branches. In attendance upon a Bible class or public worship, such pupils are generally remiss, and in the performance of moral duties, we often see a great deficiency. They are usually wanting in meekness and lowliness of mind. If a schoolmate is unfashionable in her dress, or rustic in her manners, she meets with their neglect; or, if a teacher, occupied with higher objects than personal decoration, appears dressed in a manner not correspondent with the latest fashions, too often do this class of pupils show what is their standard of merit by pertness and disrespect. We shall consider hereafter the tendency of an undue regard to fashion and fashionable accomplishments. In the mean time, may those who are conscious of erring in this respect, think seriously upon the subject, and strive to gain more just views of the qualities which form a dignified and elevated character.

But there is a third class of pupils who have a higher standard of merit than fashion, and who are above the gross enjoyments, the listless *ennui* which marks a certain class of school-girls. There are those, who, early imbued with virtuous principles, and a regard to moral obligations, would grieve to be found wanting in any duty tow their parents, their teachers, or their companions. S pupils are exemplary in their deportment, and obedien rules; they endeavor to make the most of the advant bestowed upon them; and like the young man, who, a enumerating his many virtues, asked our Saviour, " w lack I yet?" such may complacently suppose they doing all that can be required of them;—and yet, thing they lack:

> "He builds too low who builds beneath the skies."

There is a higher and a holier motive than even duty parent or a friend, or benevolence to our fellow-creatur piety operating upon the heart is the vital principle wh gives energy to all its virtues.

The fourth and last class of pupils, are those, who, fluenced by the hopes of the gospel, act not with refere to this world only, but to eternity. I am aware that tween the two latter classes of pupils it is often difficul discriminate; and far be it from me to sit in judgm upon the motives of any—to say of any individual, she merely a moralist, and of another, she is pious. God, w knows the secret motives of all, seeth those who serve h in sincerity and singleness of heart. "Not every one t saith Lord, Lord, shall enter into the kingdom of heav but he that doeth the will of my Father in heaven." I not to those who are loud in professions, who forsake th own duties in order to watch the conduct of others; it not to those who virtually say, "Stand by, I am hol than thou," that we must look as the patterns of Christi character. Blessings are pronounced upon the meek a lowly, the poor in heart, the peacemakers, and they w suffer for righteousness' sake.

The members of this institution who profess to be f wers of Christ, ought to be aware of their high respon- bilities. Your example may invite others to seek that ligion which they see producing in you, good fruits; or may disgust them, if accompanied with forbidding and npleasant manners. To each of you, the question should ften arise: What should be my walk and conversation nder my present circumstances? how may I, while here, dorn the religion I profess? Surrounded as you are by ;ay, and often thoughtless companions, by those who can- ıot appreciate your motives of action, it may seem to you ı subject of doubt, whether you should not wholly with- lraw yourselves from society, rather than incur the hazard of lowering your own standard of duty, or of losing your own seriousness amid surrounding levity.

The Scriptures command Christians to come out from the world, to separate themselves from it. Yet our Saviour himself familiarly associated with publicans and sinners—he went to their entertainments, and conversed with them in public places. At Cana of Galilee we find him attending a wedding, and promoting the festivities of the occasion, by miraculously changing water into wine. The Pharisees indeed reproach him for these things; they follow him in his hours of social intercourse, and point the finger of scorn, because he associates with sinners. Yet the meek and humble Jesus is not deterred from his purpose. We see him seated, not among a few who already esteemed themselves righteous, but with the multitude; we hear him, in mild and gentle accents, telling them to knock and the door of mercy shall be opened, to ask and they shall receive, to repent and they shall be forgiven, to go in peace and sin no more. His kind and attractive manner first drew the heart towards him, and then to the doctrine which he taught.

We are not then to suppose that our Saviour intended his followers should separate themselves from the world by ceasing to hold intercourse with it; we cannot believe that the Christian, as some zealots teach, is in the performance of his highest duty, by withdrawing from the world and burying himself in a cloister, in order to give his heart wholly to God and the services of religion.

How, then, you may ask, are we to separate ourselves from the world? We answer, by piety, meekness, and readiness to do good to others, and in all things to adorn your profession; it is thus that you should *distinguish* or separate yourselves, being " while in, above the world." You need not fear to follow the example of your Saviour, who mixed with the multitude, that he might do them good; and although you have not the power of working miracles, you may do much towards healing the moral diseases of your thoughtless companions, by seeking occasions to give them good counsel, and proving by your own conduct that " the ways of wisdom are pleasant, and all her paths peace."

This institution has at all times numbered among its members many professors of religion. These have exerted a most salutary influence upon other pupils; yet had they always considered their obligations to let their " light so shine, that others, seeing their good works, might glorify their Father in heaven," their influence might still more extensively have been felt. Some have yielded too much to the example of the merely fashionable, the gay, and the trifling, and instead of firmly standing upon the ground of Christian duty, and refusing to countenance any thing contrary to Christian obligation, they have seemed almost fearful of being recognised as professors of religion, and with the disciple who denied his Lord, to say by their practice, "We know not the man." In some cases, pious and conscientious pupils, disgusted with the levity and frivolity of some of their fellow-students, have coldly withdrawn from any intercourse with them, and in consequence have gained the reputation of being morose and namiable. A feeling of mutual jealousy and dislike has thus taken the place of that confidence and affection which ought to prevail among members of the same institution.

You will at once see the evils which must result from uch a state of things; and permit me to hope that the ious members of the institution will unite with me in endeavoring to lead the thoughtless to reflection, and to levate the tone of moral and religious feeling among us. But that you may be useful, you must make yourselves greeable—join in innocent recreations, and do not despise external graces, or a suitable attention to dress and ccomplishments. Be mild and courteous, dignified and xemplary, and you will command an influence which neiher wealth nor fashion can gain; an influence over the earts of those around you, and thus have it in your power o arouse the idle and careless to a sense of duty, to enorce upon the gay and thoughtless higher and better moives, and to convince those who depend merely on a cold morality, that human virtue is but a shadow when unaccompanied by religious affections.

St. Paul, like his divine Master, became "all things to ll men, that he might by all means save some." "Never," ays an English writer,* "was man more deeply versed han he, in the knowledge of the ways which lead to the human heart; and never was man more disposed by principle and by feeling to apply that knowledge to the benevolent purpose of opening the heart to the influence of the truth which saves and sanctifies. Who would attempt to portray the character of Paul (or who would recognise the likeness if attempted) without the kindness, the gentleness, the suavity, and sympathy which he himself copied from the model of absolute perfection?" May you, my dear Christian pupils, in these respects, imitate St. Paul, even as he imitated Christ.

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* Rev. H. F. Burder.

LECTURE III.

Nature and Objects of Education.

The true end of education is to prepare the young for the active duties of life, and to enable them to fill with propriety those stations to which, in the providence of God, they may be called. This includes also a preparation for eternity; for we cannot live well, even in this world, without those dispositions of heart which are necessary to fit us for heaven. To discharge aright the duties of life, requires, not only that the intellect shall be enlightened, but that the heart shall be purified. A mother does not perform her whole duty, even when, in addition to providing for the wants of her children, and improving their understanding, she sets before them an example of justice and benevolence, of moderation in her own desires, and a command over her own passions: this may be all that is required of a heathen mother; but the Christian female must go with her little ones to Jesus of Nazareth, to seek his blessing; she must strive to elevate the minds of her offspring by frequent reference to a future state; she must teach them to hold the world and its pursuits in subserviency to more important interests, and to prize above all things that peace which, as the world giveth not, neither can it take away.

Thus comprehensive, my dear girls, is education; *it consists in training the body to healthful exercises, and elegant accomplishments, in cultivating and developing the mental powers, in regulating the passions, and above all, in forming religious habits.* M. Julien, in his 'Essai General d'Education,' says, "Education is an apprenticeship for life; its true end, like that of existence, is well-being or happiness. But although all men either by relection or instinct seek this end, although all desire to be happy, most are ignorant of what happiness really consists n, what are the elements which compose it, and the means of obtaining it. Reason, observation, and experince appear to point out three essential and necessary elements of happiness—health of body, elevation of soul, and ultivation of intellect."

Many appear to think that the whole business of a eacher is to impart instruction in the different branches f learning. This is far from being the most anxious oncern of one who realizes the importance of early disipline of the passions, and of early associations upon the moral character. Instruction, or the communication of iterary and scientific knowledge, is, indeed, but a small art of education; for a person may be learned, and yet ave been very badly educated. The great thing is to end forth into the world those who are fitted for the various exigencies of life: had we the prescience to know hese, did we know what would be the future situation of each one of you, we might proceed somewhat differently in our efforts for your improvement; but uncertain as are the events of this changing world, it is not possible to be certain which of your attainments in literature and science, or which of your personal accomplishments, will be most useful to you hereafter; or whether these are to be exercised only for the improvement and delight of the social circle, or to be the means of gaining your own support and that of others who may be dependent upon you.

How many females, who once cherished the expectation of filling a splendid station in life, have been reduced to the necessity of exerting their talents to gain a subsistence. You are all, probably, acquainted with some such; you may perhaps have heard it remarked of them, that their trials, by throwing them upon their own resources, had developed the latent powers of their minds, and rendered their characters more interesting and valuable. Those of you, who now enjoy prosperity, may have no fear that your situations will ever change: you may not conceive the possibility of suffering those reverses which you have witnessed in others. But, riches are proverbially fleeting; a storm at sea may wreck the freighted vessel on which your parents depend for wealth; fire may consume their property; the failures of others may involve them; the channels of trade may be diverted; manufacturing interests may decline, or landed estates may sink in value;—upon these, and a thousand other chances, does the uncertain tenure of worldly wealth depend.

Some of you may expect distinction on account of friends high in official stations, but long before you are prepared to take an active part in life, they may have sunk into obscurity. In this country, of all others, the distinction which arises from public offices is the most transient and uncertain. We see a man holding the highest offices in the government, and his family courted and flattered on account of the power and influence which this gives him. But this same individual, by a change of public sentiment, or some new movement of the political machine, is soon deprived of his honors, his family are neglected and forgotten, while their pretended friends are bustling onwards to pay their court to the rising fortunes of another, who becomes for his short hour "lord of the ascendant."

How important, then, that all of you should provide yourselves with resources against a day of change! These resources you are now in a situation to secure, in the atainment of that knowledge, and those accomplishments, which the present wealth of your parents place within your each. The above suggestions should also induce those who possess present advantages, to treat with attention such as are less favored by fortune, but who deserve respect for heir morals and talents, and whose friendship may, at some future period, confer honor and distinction.

There are among those who now listen to me, some who have early tasted affliction; some to whom adversity s familiar; these, perhaps, have been accustomed to regard themselves as destined to glide through life in obscurity, unnoticed and unknown. But the tempest may have bowed you to the earth only that you may arise strengthened and invigorated. You have seen a slender plant drooping its head and lying low beneath the blast; but the storm passed, and the plant raised itself up, exhibiting new verdure and strength. Even so it may be with you, when the clouds which darken your young days shall clear away, and a brighter sky reveal to you paths of usefulness and honor. In your future prosperity, you may be able to assist by your bounty, and honor by your notice, some who now pass by you with neglect. Take courage, then, and remember that to a certain degree, especially in our own country, every one is, in a degree, the "artificer of his own fortune."

Can we find no cause why the children of the rich, setting out in life under the most favorable circumstances, often sink into insignificance, while their more humble competitors, struggling against obstacles, rise higher and higher, till they become elevated in proportion to their former depression? Have we never beheld a plant grow weak and sickly from excess of care, while the mountain pine, neglected and exposed to fierce winds and raging tempests, took strong root, and grew into a lofty tree, delighting the eye by its strength and beauty? If we look into our state legislatures, our national congress, and the highest executive and judicial officers in the country, we do not find these places chiefly occupied by those who were born to wealth, or early taught the pride of aristocratic distinctions. Most of the distinguished men of our country have made their own fortunes; most of them began life, knowing that they could hope for no aid or patronage, but must rely solely upon the energies of their own minds and the blessing of God.

Ask the officers of our colleges, and other seminaries of learning for boys, which of their students are most distinguished for morality and talents—they will not, generally speaking, point to the sons of the rich and the great, to those who feel that they already possess sufficient recommendations to the favor of the world;—no, we shall be told that the highest places are often filled by students who are struggling against difficulties in the acquisition of that intellectual wealth which they prize above all earthly blessings, and by means of which they hope to render themselves respected and useful. Similar facts may be witnessed in female institutions: nor need we look beyond our own walls to see instances of minds debased and enervated by the consciousness of wealth and the idea that this alone can procure honor and respect. But can you feel esteem for a fellow-pupil, who, spending her time in idleness, exhibits in her conversation and school exercises a vacant intellect? And when such a one shall go out into the world, to mingle in society with the wise and intelligent, will her money compensate for her want of knowledge! True her society may be courted by the mercenary; but she cannot avoid perceiving the motives which influence them. Could we, my dear pupils, read the hearts of many who live in splendor, we should see them writhing under the mortifying consciousness of their own real insignificance.

Some of you may be ready to exclaim, is wealth then a curse, and are we to esteem ourselves less fortunate than if we were poor and depressed in circumstances? Far be it from me to teach you to be ungrateful for the blessings bestowed by Providence—as blessings should you consider wealth and honorable connections: but you should remember too that superior privileges lay upon you greater responsibilities; and I am happy to say that, in this institution, many of its most exemplary and industrious pupils have been young ladies of high expectations. It is when we find wealth little prized for its own sake, and valued chiefly for the opportunities it affords of acquiring knowledge and rendering its possessor useful, that we feel a true respect for its possessor.

You perceive how wide and extended a field is that of education, involving, as it does, your temporal and eternal interests. "Get *wisdom*," says the wise king of Israel, "and with all thy getting, get *understanding*. When *wisdom* entereth into the heart, and *knowledge* is pleasant unto thy soul, *discretion* shall preserve thee, *understanding* shall keep thee. They will hear and increase in *learning*, and they that have understanding shall attain unto *wise counsels*. The *knowledge* of *wisdom* shall be sweet unto thy soul; and when thou hast found it, there shall be a *reward, and thy expectation shall not be cut off*." The *knowledge* which you are to gain is as various as are the works of God, and the laws of which govern these works. The *wisdom* of which the sacred writer speaks, implies something more than the knowledge of human sciences;—the control and right direction of our passions, the knowledge of our own hearts, and above all, the knowledge of God, constitute true wisdom.

While you are making acquisitions in the various branches of study, or in other words, gaining knowledge, do not neglect to seek that wisdom, without which, knowledge is worse than useless. Talents and learning without wisdom are like fire, or instruments of death in the hand of a madman; desolation and destruction to all that is good and truly valuable in morals and religion mark the progress of those whose minds are thus unbalanced. They are the moral Siroccos which, with blighting influence, occasionally sweep over the intellectual world. How gloomy to behold one of the noblest works of the Creator, a human mind, employing its high powers in cursing its fellow-beings by leading them insidiously from the paths of virtue! or with the boldness of the fallen angels, openly daring the Almighty by trampling on his laws, and calling on others to follow its impious career! Such has been the course of some whose infectious writings come to us, stamped with the seal of genius and fashion. Talents have been blindly worshipped, and the fearful tendency of some works of genius has been unseen, amid the splendid coruscations of intellect which have accompanied them. But the lightning is not less dreadful for its brilliancy, nor the Kalmia less poisonous for the splendid beauty of its coloring. To be *badly great,* is to be cursed indeed; far better would it be to live and die in humble mediocrity, than to shine, only to mislead; to exhibit great powers of mind, only to show the abuse of them. It is then of infinite importance that moral improvement should keep pace with intellectual attainments, and thus will the treasures of knowledge conduce to the good of society, and to that of the individual who possesses them.

Our object in the following Lectures, will be to consider how you may best attain those qualifications which will fit you for the duties of life, and for enjoying happiness hereafter. You are all gifted by the Great Creator of mankind with rational and immortal minds. But a few years ago, you were thoughtless and gay children. You do not remember when you first began to think; that period is involved in as much mystery as the darkness of the grave. The dawning of the human intellect, like that of the natural day, is gradual and undefined. Memory, straying in the twilight of childhood, imperceptibly finds herself lost in the darkness of infancy. That children think much, and admire the bright and beautiful objects around them, long before they can by words express the operations of their minds, is plainly manifested: we have no reason, however, to believe that infants are moral agents. It is when the child begins to inquire, "What am I? who made me? for what purpose am I created?" that he becomes an accountable being.

The child looks upwards, he beholds the glorious sun and moon, the brilliant canopy of heaven glittering with its spangled myriads; he looks upon the earth, and sees the majestic mountain, the expanse of waters, he beholds the sweet flowers, which seem to speak to his heart by their fragrance, no less than to delight his eyes by their beautiful and delicate coloring; he contemplates the towering oak and the verdant carpet beneath his feet, he listens, and his ear brings to his soul the rush of waters, the dashing of the ocean, the murmur of the rivulet, and the gentle sighing of the breeze. The animal creation fills his heart with joy, the singing of birds, the meekness of some domestic animals, and the swiftness and beauty of others, all strike his observant mind. But with still more interest does he view the intelligent beings around him.

That lovely and patient one, whose smiles kindled the first emotion in his young heart, whose gentle bosom had been his pillow, in suffering and in joys; the many kind friends who have been wont to administer to his wants, all are around him, and he feels that it is pleasant to be alive, to experience so much kindness, to behold so many grand and beautiful objects, and to enjoy within himself the sportive glee of his heart, and the bounding elasticity of his young limbs.

A few more years, and the season of childhood is over—the splendid beauties of the intellectual world then dawn upon the youth, and his heart beats high with new and delightful emotions. New connexions are formed, which give to life a new charm, and promise lasting felicity. New hopes are awakened, new plans formed, and the grand drama of life opens with activity and expectation.

But again the scene changes; youth is merged into middle age, its brilliant anticipations have been succeeded

by sober, perhaps melancholy realities;—friends of former years are gone; death has taken some, and the chilling influence of the world has blighted the affections of others. The man is pained by the consciousness that his own heart has lost something of the warmth and noble generosity of youth, while a cautious and calculating prudence has become its substitute.

But the period of activity is now gone;—it is the order of nature that maturity shall be followed by decay; the frame loses its vigor: the silver locks, the dim eye, and the tottering step mark the period of old age. Nature herself seems to be growing old; the sun has risen upon many troublesome days, and the moon has witnessed wearisome nights. He turns from these things which remind him of his frequent disappointments, and sighing, exclaims "Oh that I had wings like a dove, then would I fly away and be at rest." Death, which had once appeared so terrible, is now by the aged Christian welcomed as the harbinger of peace, as the entrance into a new scene of existence, where friends will never part nor know distrust, where, sinless and happy, all the better feelings of the heart will strengthen and expand, until man shall become perfect and glorious as the angels now are.

Since such is our destination, to live on earth a few revolving seasons, and then to die, and to be renewed in a state of never-ending existence, let us, while preparing for life, keep in view the great end for which life is given, and endeavor "so to pass through things *temporal*, that we lose not the things *eternal*."

THE
FEMALE STUDENT;
OR,
LECTURES TO YOUNG LADIES
ON
FEMALE EDUCATION.

FOR THE USE OF MOTHERS, TEACHERS, AND PUPILS.

By Mrs. PHELPS,
(Late Vice-Principal of Troy Female Seminary,)
AUTHOR OF FAMILIAR LECTURES ON BOTANY, CHEMISTRY, AND
BOTANY FOR BEGINNERS, GEOLOGY, ETC.

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DEDICATION.

To MAD^{ME} LOUISE S. W. BELLOC,

AND

MAD^{LLE} ADELAIDE DE MONTGOLFIER,

OF FRANCE.

To you, sisters in affection, united in your efforts to promote human virtue and improvement, and associated with the friend and benefactor of America, the good Lafayette, in the important care of selecting a national library for your beloved country, the following pages are respectfully inscribed by one, who is proud to have been acknowledged by you as a friend, and a fellow-laborer in the cause of education. For this distinguished honor, and the affection manifested by you for my sister, during her residence in France, permit me, thus publicly, to express my gratitude. May the friendship which, in so interesting a manner, has been commenced between us, be elevated and permanent in its nature, as the objects which have given rise to it are noble and imperishable.

ALMIRA H. LINCOLN PHELPS.

Mont Cervus, Guilford, Vermont.

PREFACE.

THE following Lectures were delivered to the pupils of Troy Female Seminary, while the Author had the charge of that Institution, during the absence of the Principal, in Europe, in 1830 and 1831.

The object of these Lectures was to awaken in the minds of the pupils, habits of thought with respect to the nature and design of education, and the practical application which ought to be made of its various branches. The young ladies to whom they were addressed were pursuing studies of different kinds; and it was important that they should know the "*why* and the *wherefore*," with the broad and general principles of literature and science. Their teachers in the individual classes would no doubt endeavor to point out these; but every teacher is well aware, that, by long dwelling upon a particular department of education, he becomes minute; and that there is always danger that the general scope of a science may be lost sight of, in the microscopic views which he is obliged to take.

It was intended in these Lectures to exhibit the nature and objects of female education, with outlines of the various sciences connected with it: in most of these, the author had at different periods personally instructed, and her views of them are the result of her own experience and observation.

But it is not without hesitation that I now unveil to public observation those scenes ever to be remembered, when, surrounded by a numerous assembly of bold and conceited girl, informs us that his daughter is excessively diffident, and needs to be brought forward and encouraged. Children of dull intellects are committed to our care as remarkable geniuses, who will be in danger of injuring themselves through an excessive love of study. One destitute of any natural capacity for comprehending either time or tune, is recommended for her fine talents in music. Another has learned to daub paper with water colors, and her parents wish that her fine taste in drawing may be cultivated, although the poor girl may not have sufficient correctness of eye to make a horizontal or perpendicular line. These mistakes are far from being confined to ignorant parents; parental blindness often falls upon those, who in other respects are wise and enlightened.

We have, in the preceding remarks, considered private education in its most favorable aspect, not taking into account the numerous cases in which the mother is inadequate to the task of instructing, from her own defective education, or from feebleness of constitution. Many young females are early deprived of a mother's care, and the father is compelled to send them abroad for education. It seems, then, that there is a necessity for female schools; and yet, strange as the fact may appear, no provision for such an object has ever been made, by the guardians of the public welfare. Napoleon, indeed, established the school of St. Denis, for educating the daughters of his legion of honor; but this was conducted on an imperfect plan, and very limited in its operation.

The founder of this institution was early impressed with the importance of female education. Her views on this subject are expressed in a small volume published name and writings of Miss Edgeworth, are known to almost every child of our country, while those of Mad^{me} Belloc, and Mad^{lle} Montgolfier, are by no means familiar to most American readers. These two ladies, with a singular devotion of friendship, mutually share in fortune, literary labor, and fame.[*] They have been connected with M. Jullien, one of the most enlightened men of the age, in conducting the *Revue Encyclopedique*, a distinguished Literary Journal of Paris; they take a deep and active interest in many of the schools and charitablei nstitutions of France; and the literature of their country is enriched by their valuable and joint productions.[†]

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[*] Madame Belloc in a letter to myself, says: "J'ai pour aide une *autre moi*, meilleur que moi, et plus capable d'accomplir: c'est une amie, une sœur d'adoption, avec laquelle, depuis douze ans, je suis à moitié de tout; peines, plaisirs, travaux, familles, nous avons tout en commune. C'est en son nom autant qu'au mien que je vous remercié de votre lettre, et que je réclame un peu de votre amitié. J'aime à pensée qu'avec vous, Madame, nous nous trouverons comme avec Madame Willard, liées d'une longue et ancienne amitié par de profonds rapporte de pensée et de gout."

[†] For further notice of these ladies, the reader is referred to Mrs. Willard's "Journal, and Letters from France and England."

PREFACE TO THE SECOND EDITION.

This edition is considerably enlarged, and, I flatter myself, will be found improved.

The work consists of the following parts:

I. PRELIMINARY VIEWS ON EDUCATION IN GENERAL.
II. PHYSICAL EDUCATION.
III. INTELLECTUAL CULTIVATION.
IV. ACCOMPLISHMENTS.
V. MORAL AND RELIGIOUS EDUCATION.
VI. THE PROFESSION OF TEACHING.

The subject of Physical Education is treated of more at large than in the former edition. The Lectures on Moral and Religious Education, and on Teaching, were designed as an introduction to a volume which I had intended to have published before this, as a sequel to the "Lectures to Young Ladies."

The proposed object of this volume is, the *consideration of the duties of females after completing their school education, and in the various relations of life.* This intended publication has not been delayed through indifference to the cause to which so great a portion of my life has been devoted, but because there seemed to be an immediate want of elementary works in some departments of education, which, from experience in teaching, I was led to think I might in some measure supply. My Lectures on Botany required considerable additions, in order to supply the information sought for by the more advanced student: and this enlargement of that work, again creates the necessity for a less expensive book for younger pupils, and for common schools. A Chemistry and Geology for beginners were needed, to render instruction in those branches of natural science more common and familiar; and to the preparation of these works, especially the former, considerable time has been devoted. In addition to these labors, has been that of editing the excellent work of Madame Necker de Saussure on "Progressive Education," which will be a valuable precursor to the one which I design to offer my sex upon their peculiar duties. Whether this, my favorite plan, will ever be accomplished, must, like all our projects, depend on the will of an overruling Providence, at whose disposal are the life, health, and reason of man. But though I may not be permitted to be useful in the manner I could wish, I have the happiness of believing, that when those who are now active in the cause of female improvement, shall have passed away, the impulse which the female mind has received, will urge forward from among the sex, new and abler advocates, who will exert a more powerful influence in favor of truth and virtue.

As novelists and poets, women have long been among distinguished writers; they have been considered as highly gifted with imagination, and the power of awakening feeling and sympathy by the creations of fancy. The fondness of the sex for reading works of fiction is proverbial. But are not the authors of such works laboring to prepare for the readers of them, that kind of food, which, so far from rendering the mental system strong and healthy, disorders and enfeebles it? Novels and poetry are indeed the flowers of literature; they afford opportunity for the display of genius, and are pleasant companions for an idle or heavy hour. They may exhibit virtue in an attractive light, and inspire a kind of enthusiasm in the reader to imitate the noble examples of heroes and heroines. But I would appeal to the experience of every female who has indulged herself much in this kind of reading, whether, after the excitement of feeling occasioned by the perusal of some fascinating novel, she has returned to the realities of life with a spirit calmed, and prepared to meet its realities with fortitude and resignation? or whether she has not at such times experienced a distaste, almost amounting to disgust, for the homely beings with whom reality surrounded her, and for the every day scenes of life? And has it not required a strong and painful effort to regain that mental equilibrium so necessary for prudent conduct and amiable deportment?

> "For yet, alas! the real ills of life,
> Prepared for patient, long, laborious strife,
> Claim the full vigor of a mind prepared,
> Its guide *experience*, and *truth* its guard."

The virtues which appear with eclat on the pages of fiction, are not the humble, unobtrusive ones of common life, and which, in reality demand the greatest efforts, and exhibit the best regulated minds;—the trials which excite our sympathy in these creations of fancy are seldom those of real life. False views are thus given of our own duties, and what we ought to expect from others.

At the time when that wonderful genius, Walter Scott, was producing one novel after another with a rapidity which his readers could scarcely keep pace with, a young married lady whose taste strongly inclined her to works of this nature, but who had abstained from reading them, lest they might interfere with her new domestic duties, was induced, by the wishes of her husband, to commence with him the Waverley novels for their evening reading: but the pages were far too fascinating to be laid aside at the usual hour for repose; there was no cessation of interest until the volumes were closed. An infant son lay in his cradle beside the mother, who, too conscientious to keep an attendant awake for these novel-reading vigils, attempted herself to watch the child. But, though quiet, he was sometimes hungry; and nature admonished him, that, in the cold of a winter's night, he ought to be warmed and cherished in a mother's arms, and he would sometimes cry;—perhaps at the very moment when Jeannie Deans was about to make her eloquent appeal to the queen, the infant would make his plea for a mother's care: the story must then be broken off, while, with a feeling of disappointment, almost amounting to impatience, the maternal duties were performed. But the healthy and beautiful child was seized with an acute disease, which terminated in his removal from this world; and though the mother could not accuse herself of actual neglect, she was conscious of having had her thoughts too much diverted from her child, by the fictitious scenes in which she had permitted her imagination to rove. She was wholly unprepared to meet such an affliction; and, turning from novels to her Bible, sought for peace and consolation in the promises of Him who is "the resurrection and the life." Those books which had drawn her thoughts from her lovely infant, she could not, for a long time endure to behold; and from thence forward she renounced them all, in the settled conviction, that females, especially when young, by indulging in novel-reading, do in a degree unfit themselves for the proper discharge of their duties.

Those who are gifted with the power to influence the minds of their fellow-beings, should beware how they exert this influence! Is it enough that they amuse, astonish, and delight mankind? This, too, the mountebank or opera-dancer may do. But as sure as there is a future state of retribution, so there is a moral influence to be exerted by every human being, according to the measure of his abilities. And where can this influence be more powerfully, more extensively exercised, than through the medium of the press? Although our voice be feeble, yet if our testimony is on the side of truth, it may have an influence on the feeble-minded, even greater than more powerful accents. It will be heard when we shall be removed to another tribunal than that of literary criticism, where the flashes of genius are too often preferred to the light of virtue. But in that great and last tribunal, we shall be judged according to the *motives* with which we have written, and not the *ability* with which we have executed our task. A. H. L. P.

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THE FEMALE STUDENT.

PART I.

Preliminary Views on Education in general.

LECTURE I.

Departure of the principal.

My Dear Pupils,

We assemble to-day under new and interesting circumstances; the Principal of our Institution has bade us adieu, and in leaving her native country for a season, she has entrusted me with her duties and responsibilities towards you. Every receding wave is now bearing her from us, and her loved and cherished institution. The affectionate and admonitory words which she spake, at parting, are yet fresh in our minds; and we, like the Ephesians, when St. Paul tore himself from them, sorrow most of all lest we may see her face no more. But let us hope that her life may be preserved, and that she may be restored to us with renewed health, and a mind enriched by observations of the state of female education in foreign countries, and with increased facilities for usefulness in her own.

I behold in the kind and affectionate expression of the youthful countenances before me, that with all the frankness of your years, you are ready to give your love and confidence. I shall need them to encourage me in the performance of my duties. But a few short years ago, and like you I was looking forward with joyous anticipation to the opening scenes of life; they did, indeed, open fair and bright, but death entered the sanctuary where were garnered up my hopes and my affections, and swept them into the grave. As the shipwrecked mariner, after a night of tempest, awakes to the consciousness that he is left alone upon the wide waters, so did I find myself a solitary being on the ocean of life. I would willingly have yielded myself up as a waif and wreck, with nothing to do and nothing to hope for; but reason and religion came to my aid, and conducted me into the port of usefulness and duty. Here I see many young immortals needing my care and instruction: this surely ought to be sufficient to rouse and call into action all the faculties of my soul! In devoting myself to your improvement I shall enjoy a consciousness of being useful, which, when connected with a proper dependence on Divine aid, can impart that "peace which the world can neither give nor take away." Yet, standing as I now do, the representative of so many parents, charged with their anxieties and duties, and with the general superintendence of a little community, combining so great a variety of character and disposition, I cannot but feel an anxious solicitude lest I may not fulfil the expectations of the public, of the teachers and pupils of the institution, and especially the requirements of my own conscience. But may I not count upon each one of you as a friend, ready to give me your encouragement and aid upon all occasions when they can be useful? These occasions, my dear pupils, will be many; to you I must ook for industry, to sustain by your improvement the character the institution has already acquired. You must aid me in maintaining good order and discipline, and by your obedience and affectionate deportment, towards your teachers, in rendering their duties pleasant.

It is my intention to devote a portion of time, on each Saturday, to giving general instruction on subjects connected with literature, morals, and religion. In these Lectures, I propose to consider the nature and objects of education, the various branches of study, with their practical application, female manners and accomplishments, and the peculiar duties of woman in her domestic relations, owards society, and towards her Maker. It is of vast mportance that you should entertain just views of the bearing which the ideas you now acquire, and the habits you now form, will have upon your future destinies both or time and eternity. As I look around upon so many young and happy faces, and consider the changes which a ew years will produce, my emotions are too powerful for expression. I see in the gay, unreflecting girl, the future wife, the mother, and the candidate for immortality, having power not only over her own destiny, but capable of wielding vast influence over other immortal beings. Impressed as these solemn realities are upon my mind, I may, at times, seem to expect from you too much seriousness and reflection, at an age when gayety and thoughtlessness re so natural.

Far be from me the wish to check the spontaneous heerfulness of your young hearts, to see you sorrowful nd desponding, or to expect in you an unnatural precocity of judgment and forethought. The world will soon nough change the buoyancy of youthful glee into heaviness. Enjoy, then, this spring time of your existence, this morning of life; but enjoy with moderation, and spare something from the exuberance of your emotions, to soften and cheer the sober and pensive season, which, should your lives be spared, will as assuredly follow, as evening follows morning, or as spring is succeeded by autumn. Should you see a group of happy children, sporting near the border of some dreadful precipice, which they in their childish glee heeded not, would you think it unkind to check them in their mirth, in order to point out their danger? Or, if one should chance to have strayed to the verge of the precipice, would you hesitate to seize him even somewhat roughly, in order to save him from destruction? Think it not, then, my dear girls, unkind in those, who by the light of experience, see dangers to you invisible, if they raise a warning voice, if they give a temporary check to your gayety, in order to avert evils which they see impending over you. The eye of experience sees before you trials of virtue, affliction, pain, and death; and "after death cometh the judgment." In view of these solemn and momentous interests, I cannot but watch with deep anxiety and solicitude, even your slightest actions; these, though individually of little consequence, appear of vast importance when considered as indications of future character.

All human beings must suffer pain, and sorrow: but on woman do the evils incident to human existence fall with peculiar force. Her heart is sensitive, and her spirits are easily elated or depressed: the delicacy of her nervous system subjects her to agitations to which man, favored by greater physical strength, and more firmness of nerve, is exempt. Subject to caprice, she needs the balance of intellectual discipline; and, above all, does she require the aid of religious principles to enable her to overcome the weakness to which her mind, owing to a peculiar physical organization, is subject.

How much of pain and sickness is the delicate frame of woman called to endure! What is more trying to the mind than personal suffering? She must experience the anguish of watching over the distresses of others; of witnessing death in its triumph over the objects of her affections. Yes, you whose hearts now beat high with expectation, who are eager to pluck the rosebuds of delight with which the world is tempting you, are to see the flowers wither in your hands, and to feel yourselves pierced with the thorns which are now concealed from your view. You may be destined to watch over the couch of sick and dying friends, of parents, brothers and sisters, and perhaps to perform the last sad offices for some of these your companions, who are now before you glowing with health and beauty. Some of you will mourn over dying children, some will experience the sorrows and desolation of widowhood; and all sooner or later will taste of death, the common lot of mortals.

In uttering these predictions I am not arrogating to myself a supernatural foresight; life, with some slight variations, will be to you, as to those who have gone before you. The smaller circumstances, the filling up of the picture, time only will exhibit, but the outlines are too darkly and plainly shaded not to be manifest to the prophetic eye of experience. Within the last seven years, many pupils whom I have been accustomed to meet in this place, and who like you were full of hope and anticipation, have gone forth into the world, only to prove its vanity and falsehood. Some have felt the bitterness arising from the consciousness of having bestowed their young affections upon unworthy objects; some have pined in secret over a hopeless amusement; while others, after having been flattered and worshipped as angels, have been left in the heart-rending condition of deserted and neglected wives. Some who, to appearance, were happily settled in life, have been called to leave their beautiful and elegant homes, the arms of fond affection, with all the charms of domestic life, and to lie down in the grave. The most devoted love, the most extensive wealth,

"Could give no more
Than earth enough to make her narrow bed."

Even the young and beautiful, when the seal of death is upon her, is given up to corruption, and the worm feeds sweetly upon its victim.

Is there not enough, then, my beloved pupils, in view of the various trials, which are incident to woman, and especially in view of the final destination of all human beings, to bring you to reflection? And oh, that you may lift up your hearts in prayer, and beseech your heavenly Father to fit you for the performance of your duties in life, and the patient suffering of your trials, and that thus you may be purified, and made meet for a holier and happier world.

"Woman's lot is on you! silent tears to weep,
And patient smiles to wear through suffering's hour,
And sumless riches from affection's deep
To pour on broken reeds—a wasted shower!
And to make idols, and to find them clay,
And to bewail that worship! therefore pray!
Earth will forsake—Oh! happy to have given
Th' unbroken heart's first fragrance unto Heaven!"

LECTURE II.

It is of great importance that you should understand your own characters, the motives which are now most powerful in influencing your conduct, and the preparations you are making for futurity, both as it respects this life and that which is to come. And yet, how few young persons do reflect deeply upon these things; how often are they careless of the seeds which may be taking root in their minds. What should we think of a farmer, who was either idle in spring, or indifferent whether good seed, or such as would bring forth useless, noxious weeds, were sown upon his grounds? But what is the product of a farm, compared with the fruits of the human mind? The former, like all worldly goods, transient and perishable; the latter, treasured up in the great record of human actions, and made the criterion by which the destiny of the immortal soul is fixed for eternity.

Let us suppose each one of you asking herself, For what purpose am I placed in this institution, and how am I improving the advantages here offered me? After searching into your own hearts, let conscience make her report; happy indeed are those who will not stand self-accused at that tribunal of moral feeling, which the Almighty has established in your own minds for the regulation of your conduct.

The different individuals now before me, with respect to their peculiar views, motives, and characters, may perhaps with propriety be arranged into four classes. Some of you may think me severe in what I am going to say, but

[illegible]

[illegible]

[illegible] affluence [illegible] [illegible] [illegible] whole moral system, and in time they render us miserable and degraded.

Luxury has an enervating effect upon our moral [illegible] Do you doubt this? Look into the history of nations of antiquity and you will see them ruined and corrupted by luxury. The Romans were [illegible] [illegible] by the spoils of [illegible] nations. [illegible] [illegible] [illegible] poverty and simplicity [illegible] [illegible] moved themselves [illegible]

and noble actions. Their descendants, enriched by
, commerce, and manufactures, are, it is to be feared,
erating from the lofty character which was exhibited
fathers of the revolution, and their unostentatious
and sisters. And yet wealth does not, necessarily
pt the mind: when properly used, it furnishes the
s of doing good to others; of assisting to promote the
designs of such as possess vast benevolence, with-
e pecuniary means of carrying their plans into effect.
th enables its possessors to purchase valuable books,
it interesting works of nature and art, to gain assist-
from the talents and information of others, and be-
the leisure for mental cultivation.

ut how do idle and careless pupils view the wealth
their parents are careful shall follow them to this
t? How do they spend the money thus lavished
them?—Besides furnishing themselves on all com-
ccasions with those eatables so injurious to health,
onsequently to mental energy, we see some descend-
ven to bribe domestics to purchase dainties, at times
n a manner forbidden by the rules of the institution?
are the hours not appropriated to study spent by such
il? in writing letters to gladden the hearts of absent
ls? in looking into the state of her wardrobe, and
ing such articles of dress, as may need it? in putting
om in order? in paying and receiving the visits of an
sting and intelligent friend? in the perusal of instruc-
ooks, or in anticipating some of the coming school
ises in order to be prompt in all her duties? Would
might believe that thus all of you did spend the
which are at your own disposal; but however un-
nt the thought, it cannot be disguised that such
ns are very differently passed by the idle and careless.

Should we enter the room of such a pupil on a Wednesday or Saturday afternoon, we might see her sitting by a basket of nuts, fruit, or confectionary—her dress slatternly, her hair disordered, and the appearance of her apartment in perfect harmony with that of its mistress. Dismissing this disgusting picture, let us consider the effect of such sensual indulgence. Our young miss awakes in the morning with a head-ache, she goes to the breakfast-table with a loathing for simple and wholesome food; when the bell rings for study she sits down with a listless and vacant mind, opens a book, looks upon the page, and perhaps reads the words; but if she attempts to investigate a subject which requires any effort of mind, she finds herself inadequate to the task. At length the hour for recitation arrives, and the idle and careless pupil appears before her teacher and classmates with the degraded sense of her own mental inferiority, and stammers out an excuse about the head-ache, want of time, &c. We might follow the same pupil to the public examination, and see her exposing her ignorance to the chagrin of her friends, the mortification of her teacher, and her own confusion. I have already dwelt longer upon this character than I intended; much more might with truth be said, to heighten the deformity of the picture, but I gladly turn from it; but if any can see in it her own likeness, let me hope that she may be induced to throw aside those habits so injurious to mental improvement, and attempt to render herself worthy of a dignified and honorable station in society.

At the tender moment of parting with a daughter, to leave her among strangers, a father is very apt, as a last act of kindness, to bestow a liberal amount of pocket-money; and the mother and sisters often feel themselves bound to show their affection by enclosing money in letters.

Alas, they little know the injury of this ill-judged kindness, especially on those who are addicted to self-indulgence.

The next class of pupils which we are to consider includes the *gay and fashionable;* those whose highest object in the attainment of an education is to enable themselves to *show off* in circles of fashion, *to seem to be* amiable and learned, instead of being so. We often see such exhibiting, in the pursuit of certain branches of education, a becoming diligence: they are faithful to their lessons in music, dancing, drawing; and, stimulated by the wish of making a figure at examinations, they are sometimes found among the best scholars in literary branches. In attendance upon a Bible class or public worship, such pupils are generally remiss, and in the performance of moral duties, we often see a great deficiency. They are usually wanting in meekness and lowliness of mind. If a schoolmate is unfashionable in her dress, or rustic in her manners, she meets with their neglect; or, if a teacher, occupied with higher objects than personal decoration, appears dressed in a manner not correspondent with the latest fashions, too often do this class of pupils show what is their standard of merit by pertness and disrespect. We shall consider hereafter the tendency of an undue regard to fashion and fashionable accomplishments. In the mean time, may those who are conscious of erring in this respect, think seriously upon the subject, and strive to gain more just views of the qualities which form a dignified and elevated character.

But there is a third class of pupils who have a higher standard of merit than fashion, and who are above the gross enjoyments, the listless *ennui* which marks a certain class of school-girls. There are those, who, early imbued with virtuous principles, and a regard to moral obligations, would grieve to be found wanting in any duty towards their parents, their teachers, or their companions. Such pupils are exemplary in their deportment, and obedient to rules; they endeavor to make the most of the advantages bestowed upon them; and like the young man, who, after enumerating his many virtues, asked our Saviour, "what lack I yet?" such may complacently suppose they are doing all that can be required of them;—and yet, one thing they lack:

> "He builds too low who builds beneath the skies."

There is a higher and a holier motive than even duty to a parent or a friend, or benevolence to our fellow-creatures; piety operating upon the heart is the vital principle which gives energy to all its virtues.

The fourth and last class of pupils, are those, who, influenced by the hopes of the gospel, act not with reference to this world only, but to eternity. I am aware that between the two latter classes of pupils it is often difficult to discriminate; and far be it from me to sit in judgment upon the motives of any—to say of any individual, she is merely a moralist, and of another, she is pious. God, who knows the secret motives of all, seeth those who serve him in sincerity and singleness of heart. "Not every one that saith Lord, Lord, shall enter into the kingdom of heaven, but he that doeth the will of my Father in heaven." It is not to those who are loud in professions, who forsake their own duties in order to watch the conduct of others; it is not to those who virtually say, "Stand by, I am holier than thou," that we must look as the patterns of Christian character. Blessings are pronounced upon the meek and lowly, the poor in heart, the peacemakers, and they who suffer for righteousness' sake.

The members of this institution who profess to be followers of Christ, ought to be aware of their high responsibilities. Your example may invite others to seek that religion which they see producing in you, good fruits; or it may disgust them, if accompanied with forbidding and unpleasant manners. To each of you, the question should often arise: What should be my walk and conversation under my present circumstances? how may I, while here, adorn the religion I profess? Surrounded as you are by gay, and often thoughtless companions, by those who cannot appreciate your motives of action, it may seem to you a subject of doubt, whether you should not wholly withdraw yourselves from society, rather than incur the hazard of lowering your own standard of duty, or of losing your own seriousness amid surrounding levity.

The Scriptures command Christians to come out from the world, to separate themselves from it. Yet our Saviour himself familiarly associated with publicans and sinners—he went to their entertainments, and conversed with them in public places. At Cana of Galilee we find him attending a wedding, and promoting the festivities of the occasion, by miraculously changing water into wine. The Pharisees indeed reproach him for these things; they follow him in his hours of social intercourse, and point the finger of scorn, because he associates with sinners. Yet the meek and humble Jesus is not deterred from his purpose. We see him seated, not among a few who already esteemed themselves righteous, but with the multitude; we hear him, in mild and gentle accents, telling them to knock and the door of mercy shall be opened, to ask and they shall receive, to repent and they shall be forgiven, to go in peace and sin no more. His kind and attractive manner first drew the heart towards him, and then to the doctrine which he taught.

We are not then to suppose that our Saviour intended his followers should separate themselves from the world by ceasing to hold intercourse with it: we cannot believe that the Christian, as some zealots teach, is in the performance of his highest duty, by withdrawing from the world and burying himself in a cloister, in order to give his heart wholly to God and the services of religion.

How, then, you may ask, are we to separate ourselves from the world? We answer, by piety, meekness, and readiness to do good to others, and in all things to adorn your profession; it is thus that you should *distinguish* or separate yourselves, being "while in, above the world." You need not fear to follow the example of your Saviour, who mixed with the multitude, that he might do them good; and although you have not the power of working miracles, you may do much towards healing the moral diseases of your thoughtless companions, by seeking occasions to give them good counsel, and proving by your own conduct that "the ways of wisdom are pleasant, and all her paths peace."

This institution has at all times numbered among its members many professors of religion. These have exerted a most salutary influence upon other pupils; yet had they always considered their obligations to let their "light so shine, that others, seeing their good works, might glorify their Father in heaven," their influence might still more extensively have been felt. Some have yielded too much to the example of the merely fashionable, the gay, and the trifling, and instead of firmly standing upon the ground of Christian duty, and refusing to countenance any thing contrary to Christian obligation, they have seemed almost fearful of being recognised as professors of religion, and with the disciple who denied his Lord, to say by heir practice, "We know not the man." In some cases, pious and conscientious pupils, disgusted with the levity and frivolity of some of their fellow-students, have coldly withdrawn from any intercourse with them, and in consequence have gained the reputation of being morose and unamiable. A feeling of mutual jealousy and dislike has thus taken the place of that confidence and affection which ought to prevail among members of the same instiution.

You will at once see the evils which must result from uch a state of things; and permit me to hope that the pious members of the institution will unite with me in endeavoring to lead the thoughtless to reflection, and to elevate the tone of moral and religious feeling among us. But that you may be useful, you must make yourselves agreeable—join in innocent recreations, and do not despise external graces, or a suitable attention to dress and accomplishments. Be mild and courteous, dignified and exemplary, and you will command an influence which neiher wealth nor fashion can gain; an influence over the hearts of those around you, and thus have it in your power o arouse the idle and careless to a sense of duty, to enforce upon the gay and thoughtless higher and better moives, and to convince those who depend merely on a cold morality, that human virtue is but a shadow when unaccompanied by religious affections.

St. Paul, like his divine Master, became "all things to all men, that he might by all means save some." "Never," ays an English writer,* "was man more deeply versed han he, in the knowledge of the ways which lead to the human heart; and never was man more disposed by principle and by feeling to apply that knowledge to the benevolent purpose of opening the heart to the influence of the truth which saves and sanctifies. Who would attempt to portray the character of Paul (or who would recognise the likeness if attempted) without the kindness, the gentleness, the suavity, and sympathy which he himself copied from the model of absolute perfection?" May you, my dear Christian pupils, in these respects, imitate St. Paul, even as he imitated Christ.

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* Rev. H. F. Burder.

LECTURE III.

Nature and Objects of Education.

THE true end of education is to prepare the young for the active duties of life, and to enable them to fill with propriety those stations to which, in the providence of God, they may be called. This includes also a preparation for eternity; for we cannot live well, even in this world, without those dispositions of heart which are necessary to fit us for heaven. To discharge aright the duties of life, requires, not only that the intellect shall be enlightened, but that the heart shall be purified. A mother does not perform her whole duty, even when, in addition to providing for the wants of her children, and improving their understanding, she sets before them an example of justice and benevolence, of moderation in her own desires, and a command over her own passions: this may be all that is required of a heathen mother; but the Christian female must go with her little ones to Jesus of Nazareth, to seek his blessing; she must strive to elevate the minds of her offspring by frequent reference to a future state; she must teach them to hold the world and its pursuits in subserviency to more important interests, and to prize above all things that peace which, as the world giveth not, neither can it take away.

Thus comprehensive, my dear girls, is education; *it consists in training the body to healthful exercises, and elegant accomplishments, in cultivating and developing the mental powers, in regulating the passions, and above all, in forming religious habits.* M. Julien, in his 'Essai General d'Education,' says, "Education is an apprenticeship for life; its true end, like that of existence, is well-being or happiness. But although all men either by reflection or instinct seek this end, although all desire to be happy, most are ignorant of what happiness really consists in, what are the elements which compose it, and the means of obtaining it. Reason, observation, and experience appear to point out three essential and necessary elements of happiness—health of body, elevation of soul, and cultivation of intellect."

Many appear to think that the whole business of a eacher is to impart instruction in the different branches of learning. This is far from being the most anxious concern of one who realizes the importance of early discipline of the passions, and of early associations upon the moral character. Instruction, or the communication of literary and scientific knowledge, is, indeed, but a small part of education; for a person may be learned, and yet have been very badly educated. The great thing is to end forth into the world those who are fitted for the various exigencies of life: had we the prescience to know these, did we know what would be the future situation of each one of you, we might proceed somewhat differently in our efforts for your improvement; but uncertain as are the events of this changing world, it is not possible to be certain which of your attainments in literature and science, or which of your personal accomplishments, will be most useful to you hereafter; or whether these are to be exercised only for the improvement and delight of the social circle, or to be the means of gaining your own support and that of others who may be dependent upon you.

How many females, who once cherished the expectation of filling a splendid station in life, have been reduced to the necessity of exerting their talents to gain a subsistence. You are all, probably, acquainted with some such; you may perhaps have heard it remarked of them, that their trials, by throwing them upon their own resources, had developed the latent powers of their minds, and rendered their characters more interesting and valuable. Those of you, who now enjoy prosperity, may have no fear that your situations will ever change: you may not conceive the possibility of suffering those reverses which you have witnessed in others. But, riches are proverbially fleeting; a storm at sea may wreck the freighted vessel on which your parents depend for wealth; fire may consume their property; the failures of others may involve them; the channels of trade may be diverted; manufacturing interests may decline, or landed estates may sink in value;—upon these, and a thousand other chances, does the uncertain tenure of worldly wealth depend.

Some of you may expect distinction on account of friends high in official stations, but long before you are prepared to take an active part in life, they may have sunk into obscurity. In this country, of all others, the distinction which arises from public offices is the most transient and uncertain. We see a man holding the highest offices in the government, and his family courted and flattered on account of the power and influence which this gives him. But this same individual, by a change of public sentiment, or some new movement of the political machine, is soon deprived of his honors, his family are neglected and forgotten, while their pretended friends are bustling onwards to pay their court to the rising fortunes of another, who becomes for his short hour "lord of the ascendant."

How important, then, that all of you should provide yourselves with resources against a day of change! These resources you are now in a situation to secure, in the attainment of that knowledge, and those accomplishments, which the present wealth of your parents place within your reach. The above suggestions should also induce those who possess present advantages, to treat with attention such as are less favored by fortune, but who deserve respect for heir morals and talents, and whose friendship may, at some future period, confer honor and distinction.

There are among those who now listen to me, some who have early tasted affliction; some to whom adversity s familiar; these, perhaps, have been accustomed to regard themselves as destined to glide through life in obscurity, unnoticed and unknown. But the tempest may have bowed you to the earth only that you may arise strengthened and invigorated. You have seen a slender plant drooping its head and lying low beneath the blast; but the storm passed, and the plant raised itself up, exhibiting new verdure and strength. Even so it may be with you, when the clouds which darken your young days shall clear away, and a brighter sky reveal to you paths of usefulness and honor. In your future prosperity, you may be able to assist by your bounty, and honor by your notice, some who now pass by you with neglect. Take courage, then, and remember that to a certain degree, especially in our own country, every one is, in a degree, the "artificer of his own fortune."

Can we find no cause why the children of the rich, setting out in life under the most favorable circumstances, often sink into insignificance, while their more humble competitors, struggling against obstacles, rise higher and higher, till they become elevated in proportion to their former depression? Have we never beheld a plant grow weak and sickly from excess of care, while the mountain pine, neglected and exposed to fierce winds and raging tempests, took strong root, and grew into a lofty tree, delighting the eye by its strength and beauty? If we look into our state legislatures, our national congress, and the highest executive and judicial officers in the country, we do not find these places chiefly occupied by those who were born to wealth, or early taught the pride of aristocratic distinctions. Most of the distinguished men of our country have made their own fortunes; most of them began life, knowing that they could hope for no aid or patronage, but must rely solely upon the energies of their own minds and the blessing of God.

Ask the officers of our colleges, and other seminaries of learning for boys, which of their students are most distinguished for morality and talents—they will not, generally speaking, point to the sons of the rich and the great, to those who feel that they already possess sufficient recommendations to the favor of the world;—no, we shall be told that the highest places are often filled by students who are struggling against difficulties in the acquisition of that intellectual wealth which they prize above all earthly blessings, and by means of which they hope to render themselves respected and useful. Similar facts may be witnessed in female institutions: nor need we look beyond our own walls to see instances of minds debased and enervated by the consciousness of wealth and the idea that this alone can procure honor and respect. But can you feel esteem for a fellow-pupil, who, spending her time in idleness, exhibits in her conversation and school exercises a vacant intellect? And when such a one shall go out into the world, to mingle in society with the wise and intelligent, will her money compensate for her want of knowledge! True her society may be courted by the mercenary; but she cannot avoid perceiving the motives which influence them. Could we, my dear pupils, read the hearts of many who live in splendor, we should see them writhing under the mortifying consciousness of their own real insignificance.

Some of you may be ready to exclaim, is wealth then a curse, and are we to esteem ourselves less fortunate than if we were poor and depressed in circumstances? Far be it from me to teach you to be ungrateful for the blessings bestowed by Providence—as blessings should you consider wealth and honorable connections: but you should remember too that superior privileges lay upon you greater responsibilities; and I am happy to say that, in this institution, many of its most exemplary and industrious pupils have been young ladies of high expectations. It is when we find wealth little prized for its own sake, and valued chiefly for the opportunities it affords of acquiring knowledge and rendering its possessor useful, that we feel a true respect for its possessor.

You perceive how wide and extended a field is that of education, involving, as it does, your temporal and eternal interests. "Get *wisdom*," says the wise king of Israel, "and with all thy getting, get *understanding*. When *wisdom* entereth into the heart, and *knowledge* is pleasant unto thy soul, *discretion* shall preserve thee, *understanding* shall keep thee. They will hear and increase in *learning*, and they that have understanding shall attain unto *wise counsels*. The *knowledge* of *wisdom* shall be sweet unto thy soul; and when thou hast found it, there shall be a *reward, and thy expectation shall not be cut off*." The *knowledge* which you are to gain is as various as are the works of God, and the laws of which govern these works. The *wisdom* of which the sacred writer speaks, implies something more than the knowledge of human sciences;—the control and right direction of our passions, the knowledge of our own hearts, and above all, the knowledge of God, constitute true wisdom.

While you are making acquisitions in the various branches of study, or in other words, gaining knowledge, do not neglect to seek that wisdom, without which, knowledge is worse than useless. Talents and learning without wisdom are like fire, or instruments of death in the hand of a madman; desolation and destruction to all that is good and truly valuable in morals and religion mark the progress of those whose minds are thus unbalanced. They are the moral Siroccos which, with blighting influence, occasionally sweep over the intellectual world. How gloomy to behold one of the noblest works of the Creator, a human mind, employing its high powers in cursing its fellow-beings by leading them insidiously from the paths of virtue! or with the boldness of the fallen angels, openly daring the Almighty by trampling on his laws, and calling on others to follow its impious career! Such has been the course of some whose infectious writings come to us, stamped with the seal of genius and fashion. Talents have been blindly worshipped, and the fearful tendency of some works of genius has been unseen, amid the splendid coruscations of intellect which have accompanied them. But the lightning is not less dreadful for its brilliancy, nor the Kalmia less poisonous for the splendid beauty of its coloring. To be *badly great,* is to be cursed indeed; far better would it be to live and die in humble mediocrity, than to shine, only to mislead; to exhibit great powers of mind, only to show the abuse of them. It is then of infinite importance that moral improvement should keep pace with intellectual attainments, and thus will the treasures of knowledge conduce to the good of society, and to that of the individual who possesses them.

Our object in the following Lectures, will be to consider how you may best attain those qualifications which will fit you for the duties of life, and for enjoying happiness hereafter. You are all gifted by the Great Creator of mankind with rational and immortal minds. But a few years ago, you were thoughtless and gay children. You do not remember when you first began to think; that period is involved in as much mystery as the darkness of the grave. The dawning of the human intellect, like that of the natural day, is gradual and undefined. Memory, straying in the twilight of childhood, imperceptibly finds herself lost in the darkness of infancy. That children think much, and admire the bright and beautiful objects around them, long before they can by words express the operations of their minds, is plainly manifested: we have no reason, however, to believe that infants are moral agents. It is when the child begins to inquire, "What am I? who made me? for what purpose am I created?" that he becomes an accountable being.

The child looks upwards, he beholds the glorious sun and moon, the brilliant canopy of heaven glittering with its spangled myriads; he looks upon the earth, and sees the majestic mountain, the expanse of waters, he beholds the sweet flowers, which seem to speak to his heart by their fragrance, no less than to delight his eyes by their beautiful and delicate coloring; he contemplates the towering oak and the verdant carpet beneath his feet, he listens, and his ear brings to his soul the rush of waters, the dashing of the ocean, the murmur of the rivulet, and the gentle sighing of the breeze. The animal creation fills his heart with joy, the singing of birds, the meekness of some domestic animals, and the swiftness and beauty of others, all strike his observant mind. But with still more interest does he view the intelligent beings around him.

That lovely and patient one, whose smiles kindled the first emotion in his young heart, whose gentle bosom had been his pillow, in suffering and in joys; the many kind friends who have been wont to administer to his wants, all are around him, and he feels that it is pleasant to be alive, to experience so much kindness, to behold so many grand and beautiful objects, and to enjoy within himself the sportive glee of his heart, and the bounding elasticity of his young limbs.

A few more years, and the season of childhood is over —the splendid beauties of the intellectual world then dawn upon the youth, and his heart beats high with new and delightful emotions. New connexions are formed, which give to life a new charm, and promise lasting felicity. New hopes are awakened, new plans formed, and the grand drama of life opens with activity and expectation.

But again the scene changes; youth is merged into middle age, its brilliant anticipations have been succeeded

by sober, perhaps melancholy realities;—friends of former years are gone; death has taken some, and the chilling influence of the world has blighted the affections of others. The man is pained by the consciousness that his own heart has lost something of the warmth and noble generosity of youth, while a cautious and calculating prudence has become its substitute.

But the period of activity is now gone;—it is the order of nature that maturity shall be followed by decay; the frame loses its vigor: the silver locks, the dim eye, and the tottering step mark the period of old age. Nature herself seems to be growing old; the sun has risen upon many troublesome days, and the moon has witnessed wearisome nights. He turns from these things which remind him of his frequent disappointments, and sighing, exclaims "Oh that I had wings like a dove, then would I fly away and be at rest." Death, which had once appeared so terrible, is now by the aged Christian welcomed as the harbinger of peace, as the entrance into a new scene of existence, where friends will never part nor know distrust, where, sinless and happy, all the better feelings of the heart will strengthen and expand, until man shall become perfect and glorious as the angels now are.

Since such is our destination, to live on earth a few revolving seasons, and then to die, and to be renewed in a state of never-ending existence, let us, while preparing for life, keep in view the great end for which life is given, and endeavor "so to pass through things *temporal*, that we lose not the things *eternal.*"

LECTURE IV.

Private and Public Education.

Much has been said and written on the most proper mode of conducting female education: some have contended that girls should be brought up under the watchful eye of maternal care; while others have considered the emulation which springs up where there is rivalship, to be important, if not necessary, to the full development of the mental powers. Whether a young lady remain with her mother during the period allotted for her education, or whether she go abroad, the character of the latter will depend much upon that of the former. The daughter's ideas of dress, of expense, of what qualities are to be most respected and valued in others, and her religious impressions, all will, in some degree, have taken their color from this earliest guide.

It would seem that of all others, a mother was the most proper person to superintend the education of a young female. The maternal watch is vigilant and active: none else can feel the deep and anxious solicitude which marks a mother's care; and yet this very anxiety, by becoming too intense, may be injurious to the child. The quick imagination of the parent seizes upon the most trifling indications of future character, and she is alternately agonized with fear, or delighted with hope. These strong emotions are not favorable to a steady and even course of education; for as one or the other feeling prevails, there is danger of trifling actions becoming the subjects of inadequate blame or praise.

It would seem that in the shade of domestic life, and under the care of a wise mother, a young female might be most likely to bloom forth, lovely and intelligent, and fitted for the discharge of the various duties, which may hereafter devolve upon her. This idea has been a favorite one with the poet and novelist, who have delighted in painting their heroines as combining all the simplicity of infancy itself, with the most court-like and elegant manners; as entirely ignorant of the world, and yet knowing all of it that is valuable; as amiable and docile, without ever having suffered restraint; as generous and disinterested, and yet knowing only to be indulged and caressed. Now this is all absurd; reasoning *a priori*, we should say that to know the world, one must have intercourse with it, and facts show that a young girl, always kept at home, is awkward and constrained in her manners, often selfish and unamiable in her disposition, and gnorant of the customs of society. Her mother may have moved in the most refined circles, be intimately acquainted with the forms and customs of polite intercourse; she may have been faithful in imparting this knowledge, but mere ules in this case are of as little use, as it would be for a pupil o study the theory of drawing and music, without practice. Selfishness, pride and conceit are also fostered in the mind of one accustomed to feel herself the great centre of attraction, and to consider every one around her as subservient to her pleasure.

With respect to literary improvement, it may be thought hat the quiet of domestic life is peculiarly favorable. We will suppose the mother herself to be entirely competent to instruct in all necessary branches of female education. Is it certain that she will have the requisite time for super at was my astonishment, to behold in this daughter, an kward, ignorant girl, with less polish of manners and s information than is ordinarily possessed by children of years of age, accustomed to associate with other chilen, and enjoying the advantages of ordinary schools. l who know any thing of instructing, are aware of the ne and patience which is requisite, even for teaching child its letters; add to this reading, spelling, writing, ography, grammar, arithmetic, and so on, to the higher anches of education, and it will not appear strange that is lady, with an extensive circle of acquaintance, and veral younger children, should have failed in her attempt educate her daughter. Seeing at length the impossility of success answerable to her wishes, she placed her ughter at a boarding school; but the confirmed irreguity of her habits was unfavorable to improvement, and ndered irksome the systematic rules to which she was bjected. She felt, too, the need of those indulgences ich home afforded, and which had greatly tended to nder her intellect dull and torpid. From these circumnces, rather than any natural inferiority of mind, her provement was not creditable either to herself, or to se under whose care she was placed.

But may not parents provide private teachers for their ldren, and thus keep them under their own observation? ubtless this is more practicable where the expense can afforded, than for parents themselves to give regular truction. Young persons thus educated, may, with a hful instructor, make tolerable proficiency in literae; but there is great danger of their becoming selfish l haughty, when all around seem to live for them. If care of their education is committed to one person, who is an inmate of their father's family, and whom they feel to be a dependant, they may learn to regard their teacher as a kind of upper servant, whose interest renders it important that they should please them, rather than as one who has a right to enforce obedience. It is for this and many other reasons which will easily suggest themselves, that the office of governess in a private family is often a most irksome and humiliating one; and that well qualified teachers usually prefer the care of a large school, with less salary than to subject themselves to the mortifications of such a situation. In a city the rich can command a great variety of talents, and employ for their children masters at home, in the various branches of education; but it is the money, and not the improvement of the pupil, which these *hourly* teachers are most anxious about: and besides, where is the beautiful uniformity which the moral and intellectual structure should exhibit, when reared by a number of independent architects? Would these parents build a house in the same manner? or would they not rather commit the *superintendence* to one master builder?

Educated under the paternal roof, the young can have little idea of a world in which their interests will clash with those of others, and where forbearance and self-denial will be continually needed. Parents may faithfully warn their children of these things; they may tell them that the world will present a scene very different from that in which their least complaint receives attention, and their slightest unhappiness meets with sympathy;—but the habit of being served and indulged, becomes so strong, that when in after years the scene is reversed, and the petted child is called upon to sacrifice her own ease and comfort for that of others, she finds the task difficult and discouraging, and either shrinks from the performance of known duties, or becomes unhappy in the discharge of them.

We see then, that however beautiful the theory of domestic education, it is not easy in practice. The mother herself, who sets out with the resolution to persevere in eaching her child, or in superintending her education, will at length feel that there are difficulties and evils growng out of her excessive anxiety; she will see that by close and constant contact with her child, and a habit of minute attention, she is prevented from seeing the outline of her character, and forming and executing hose general rules to which subordinate ones should be subservient.

I have heard mothers who had been in the practice of nstructing youth, say, that they found more difficulty in governing and managing one or two of their own children, han in controlling and instructing a large school. This may be easily accounted for; an instructor has, or ought to have, her mind free from other cares than those connected with her profession; if conscientious, she feels a sufficient degree of interest in the progress and character of her pupils to induce her to make every possible exertion; but she does not suffer that excessive solicitude which often impedes the mother's progress. Physicians frequently profess an unwillingness to prescribe for their own families, on the ground that too great anxiety influences their judgment;—in all cases requiring the full exercise of the reasoning powers, it is important that the mind should, as little as possible, be influenced by the emotions.

Parents are often deceived in the characters of their children, as instructors have frequent opportunities of witnessing. Sometimes one who brings to the Seminary a bold and conceited girl, informs us that his daughter is excessively diffident, and needs to be brought forward and encouraged. Children of dull intellects are committed to our care as remarkable geniuses, who will be in danger of injuring themselves through an excessive love of study. One destitute of any natural capacity for comprehending either time or tune, is recommended for her fine talents in music. Another has learned to daub paper with water colors, and her parents wish that her fine taste in drawing may be cultivated, although the poor girl may not have sufficient correctness of eye to make a horizontal or perpendicular line. These mistakes are far from being confined to ignorant parents; parental blindness often falls upon those, who in other respects are wise and enlightened.

We have, in the preceding remarks, considered private education in its most favorable aspect, not taking into account the numerous cases in which the mother is inadequate to the task of instructing, from her own defective education, or from feebleness of constitution. Many young females are early deprived of a mother's care, and the father is compelled to send them abroad for education. It seems, then, that there is a necessity for female schools; and yet, strange as the fact may appear, no provision for such an object has ever been made, by the guardians of the public welfare. Napoleon, indeed, established the school of St. Denis, for educating the daughters of his legion of honor; but this was conducted on an imperfect plan, and very limited in its operation.

The founder of this institution was early impressed with the importance of female education. Her views on this subject are expressed in a small volume published about the year 1818, and called "Plan of a Female Seminary, by Emma Willard." The author sketched the plan of a Female Seminary, to be founded and endowed by public munificence. She urged the claims of the daughters of the republic, to share, in some small degree, with the sons, in those privileges for mental improvement which were so abundantly bestowed upon the latter. After pleading the justice of the claim and the expediency of granting it, as proved by a variety of important considerations, she thus remarks of female education in reference to national character and glory:—'Ages have rolled away; barbarians have trodden the weaker sex beneath their feet; tyrants have robbed us of the present light of heaven, and fain would take its future. Nations, calling themselves polite, have made us the fancied idols of a ridiculous worship, and we have repaid them with ruin for their folly. But where is that wise and heroic country, which has considered that our rights are sacred, though we cannot defend them? that, though a weaker, we are an essential part of the body politic, whose corruption or improvement must affect the whole? and which, having thus considered, has sought to give us by education, that rank in the scale of being, to which our importance entitles us. History shows not that country. It shows many, whose legislatures have sought to improve their various vegetable productions, and their breeds of useful brutes; but none whose public councils have made it an object of their deliberations, to improve the character of their women. Yet though history lifts not her finger to such an one, anticipation does. She points to a nation, which, having thrown off the shackles of authority and precedent, shrinks not from schemes of improvement, because other nations have never attempted them; but which, in its pride of independence, would rather lead than follow, in the march of human improvement; a nation, wise and magnanimous to plan, enterprising to undertake, and rich in resources to execute."

The late Governor Clinton entered warmly into the views of Mrs. Willard: he encouraged her to petition the legislature of New-York, and in a message to that body, publicly expressed his own opinions with respect to the justice of the claim. The novelty of the petition caused considerable sensation, and gave rise to much discussion both in the House and abroad. The more enlightened members seemed, generally, in favor of considering females as the legitimate children of the state, and making some provision for their intellectual improvement. But some said, " learning would not help them to knit stockings or make puddings;"—others, who viewed women in a more interesting light than as mere domestic drudges, were afraid that masculine studies would spoil the gentleness of their disposition, and produce in them the desire to rival man, and thus disturb the established order of society. The bill for an endowment of a Female Seminary, after having received a favorable report from the committee to whom it was referred, was defeated through the influence of those who, without attempting to deny the right which was claimed, thought it should be waived on the ground of the evils which might result, from enlightening the minds of those, who were destined to a limited and subordinate sphere.

It is upon a similar mode of reasoning that the slave-holding States found their objections to the instruction of those degraded beings, who are entailed upon them, a [illegible] by nature, and of the [illegible] which they are kept in bondage [illegible] means of communicating with each other from [illegible] thus enabling them to act in concert [illegible] and the fair regions of the world would soon [illegible] universal scene of blood and carnage. [illegible] a necessity founded on the principle of self- [illegible] which tends to darkness so great a portion of [illegible] we cannot but admit that such a necessity [illegible] the present state of things exist.

[illegible] the question come fairly before those who [illegible] improvement in females, which, if not similar [illegible] analogous. Whether the right of making [illegible] of keeping them in ignorance is now claimed [illegible] only a matter of expediency. The right of the [illegible] in a state of intellectual [illegible] is certainly not less questionable. Let it then [illegible] on the ground of expediency. What would [illegible] of society if females were generally taught [illegible] of the natural and moral world, the nature of [illegible] their own bodies, and their high re- [illegible] as moral and intellectual beings? Would knowledge be likely to cause them to [illegible] the

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With respect to literary improvement, it may be thought that the quiet of domestic life is peculiarly favorable. We will suppose the mother herself to be entirely competent to instruct in all necessary branches of female education. Is it certain that she will have the requisite time for super from their effects upon each other. "As a little leaven leaveneth the whole lump," so do pride, vanity, and disregard to moral and religious principles, spread from one and contaminate many.

Each one is, perhaps, ready to exclaim, "Far be it from me to set an example that may injure the characters of any of my companions."—I can readily believe that none of you would willingly become an agent of evil, a corrupter of others: none of you would say in words, "I consider fashionable dress and manners more respectable than virtuous principles;" but are there not some of you who say this by your actions? When a stranger arrives among you, what is the first inquiry of many? "Is she handsome? how is she dressed? is she rich, fashionable and genteel?" Would it not naturally be inferred from this, that you considered these the most important qualifications? Do you as often hear the question, "Is the new scholar pious, well informed, or amiable?" Now there is always danger that young persons will acquire false ideas of what is truly estimable: especially do their standards of excellence depend much upon the opinions of those around them. All the good instruction given by teachers, may be counteracted by accidental associations. If while you are told that virtue is more to be desired than beauty, and piety than elegant accomplishments, you see the virtuous and pious neglected by certain young ladies, who claim a kind of exclusiveness and eminence—of how much greater influence may be the example than the precept!

Philosophers have not erred in considering the peculiar characters of individuals as greatly modified by accidental circumstances. The human mind is so constituted that what becomes common ceases to make an impression; the attention is not aroused by the recurrence of what is expected: thus, when you meet in this place, it is a thing of course that you should be reminded of your duty, and called upon to hear moral reflections; you take it for granted that good things will be said, which will undoubtedly tend to your benefit, although you may neither listen to the counsel, or practise it. So in your recitation rooms, you expect explanations of grammar, rhetoric, mathematics, &c., and your attention fails of being arrested. Let the same moral remarks, or the same explanations be heard in some unexpected time or place, and your minds spontaneously open to receive the truths. Thus should the Lectures to which you now listen with a respectful, though it may be in some cases with a vacant manner, meet your eye, when far from the scenes with which you now are familiar; far from the friend who now addresses you, and whose voice may be then forever silent; how quickly would your attention be aroused, how rapidly would recollection glance at one past scene after another, the various characters and events which since your school days had given coloring to your life; and how deeply might you then regret that you had not listened to that admonition which bade you beware how you suffered your standard of virtue and merit to be unduly influenced by casual circumstances.

Let fashion direct the form of a hat, the cut of a sleeve, and we will even allow her an influence over manners and deportment; but let her not presume to enter the sacred precincts of virtue, to weigh against moral worth the gaudy plumage of which she boasts, or with her light wand to expel conscience, that stern and faithful monitor, from her guardianship over the heart.

You see, my dear girls, how important it is that your prepossessions should be on the side of virtue. Among the number with whom you here associate, you will not fail of finding some who entertain false ideas with respect to character; and you will be in great danger of lowering your own standard of moral feeling, unless you learn to examine for yourselves, and to watch over your accidental associations of thought.

It is indeed of the utmost importance, that, in public institutions, a high moral standard should exist; that the hearts of its pupils, not only on their own account, but for the sake of those who are associated with them, should, as far as possible, be secured in behalf of correct principles. Especially is it necessary that a balance on the side of virtue should prevail; this will produce harmony in the support of what is right and good :—pupils who enter such an institution, find the work of self-government and of virtuous training almost accomplished for them.

In families, we see, in general, prevailing characteristics. Some aim at holding a high rank in fashionable life ;—without seeming to possess much natural affection, and while in private very deficient in kind and disinterested offices among themselves, they endeavor, by various artifices, to set each other off before the world. This is wholly the result of selfishness: they wish their brother, sister, or cousin, to appear genteel, because the reverse, they think, would disgrace themselves. It would be a fatal blow to be thought to have vulgar relations: of the moral character of those relations, they take little trouble; for, as in the circle in which they are proud to move, morality is out of the question, so long as a fair outside appears, they make clean the externals, but within are all ɔf strifes, envyings, and deceit. Should we take a ce behind the curtain, and view the domestic life of nily where no moral or religious principle binds to- er those whose interests are constantly clashing, and need mutual self-denial and forbearance, what scenes d present themselves! Here the mask is thrown off, each understanding the game which is going on, can no confidence that he or she in their turn is not to be ived. Are there no females gentle as zephyrs before rorld, who in private are blustering as the north wind? here none who seem to have two faces, the one decked niles and tender glances, the other distorted with evil ons? Suppose one of the other sex meets in the cir- of fashion with an angelic creature, whose face seems 'ery image of moral virtue; her sweet accents and ing smiles sink into the heart, and he feels that she ɜ being to make glad his future path in life. With a bling heart, he asks from her lips the sentence on h his earthly happiness depends: if he is rich, hand- : and genteel, the votaress of fashion does not keep him in suspense, for the great object of her artifices is to be ummated by such an union. Alas, poor youth, thy ny in this world is indeed sealed! thou art like the aught in the spider's web; and too late wilt thou see : own folly. For a little time the mask may still be worn, if there are some lingering sentiments of moral beau- the mind of the fashionable bride, she will perhaps d always to *appear to be*, what she knows her hus- thinks she is; but at the first opposition to her own the first call upon self-denial and disinterestedness, isguise is dropped, and the traces of beauty are no :r visible to the eye of the dismayed husband!

You may feel that I am severe upon my own sex. The vices and deceptions of the other, it is not now my province to expose. It is probable, however, that there are instances in which the cheat is mutual; and that when the mask which concealed the character of one, drops off, the assumed disguise of the other is not long retained; thus both parties are left to gaze upon each other with mutual horror and disgust.

What a picture of human life is this? And, my dear girls, can you wonder that we, to whom the forming of your characters are committed, should so anxiously desire that you may indeed *be, all that we would have you seem to be?* You are now young: your hearts are not yet sophisticated by the fatal influence of a life of pleasure and dissipation. An occasional glance at the scenes of fashionable life must have shown you how strongly fortified your minds should be with the principles of religion and virtue, to enable you to resist their allurements. Here then, at this place, where the youthful mind is in a measure to be formed, and where it is to be guarded against the seductions of the world, how necessary it is that an elevated standard of moral character should prevail! If even here, fashion can enthral you with her fetters, restraining the spontaneous effusions of your youthful hearts, directing by her influence your affections and friendships, what will you become when your present restraints are removed, and the temptations of the world assail you? Are any of you willing to believe or say, "My chief ambition in life shall be to figure in the region of fashion; the amiable qualities of the heart, the acquirements of intellect and the integrity of virtue, shall have no charms for me! The incense of my heart shall be offered at the shrine of wealth and pleasure !" Each of you would now feel insulted by having such sentiments ascribed to you; and yet there is danger that the fascinations of the world, acting upon a cherished love of admiration and pleasure, may hurry you into the vortex of thoughtless dissipation,

> " Where virtue is forgot and folly reigns."

We wish you to pay such attention to dress and manners as may suit those stations in life which you may be called to fill; at the same time we would endeavor to convince you that these are but the appendages, not the chief excellencies of a lady. The regulations of the institution with respect to your care of your own rooms, and occasional attention to domestic operations, under the eye of the superintendent, are designed to make you good and useful women. We would not that you should be like the butterfly, who, when on giddy wing she has sported away the short summer of youth and beauty, sinks into oblivion; but like the evergreen, which seems brightest and most beautiful when the frosts prevail, may your old age exhibit the loveliness of virtue, and the beauty of that holiness, which shall flourish in perennial verdure in the paradise of God.

PART II.

PHYSICAL EDUCATION.

LECTURE VI.

Health. Neatness.

Sensations.

Before proceeding to consider the subjects connected with intellectual improvement, I shall make some remarks upon the development of the senses, or those external organs, by whose means the soul communicates with material objects. Although these organs are the gift of nature, it is by practice, or experience that they become truly useful to man.

The term physical education is used in reference to the improvements which can be effected in the human frame and the senses, by a proper system of discipline. Among the ancients, physical education occupied a large share of attention: it is now becoming a subject of inquiry among those who perceive the evils which have resulted to the body from a disproportioned cultivation of the intellectual powers. *Mind* is ultimately the object to be acted upon, in physical as in other branches of education. That department of the mind to which we are now to give our attention, is called by metaphysical writers, by the general term, *external states of mind.* These external states refer to the mind, as affected by external objects, as affecting the body, or as being affected by the body: they are also known by the general term *sensations.* With sensation, *perception* is intimately connected, the latter being the knowledge of the material world which the former communicates;—thus, you put your hand upon the stove, and you have the sensation of heat; by this sensation you *perceive that the stove is hot.* The term *consciousness* is also superadded by some metaphysicians;—thus, you feel the heat; this is a *sensation; you perceive* the stove is hot, and you are *conscious or know* that you do thus feel and perceive. The term consciousness appears superfluous, for we cannot feel or perceive without knowing that we do so.

Music, drawing, and whatever is addressed to the eye and ear, are physical operations, inasmuch as they require the agency of the bodily organs in their execution, or affect the mind through the agency of corporeal organs: but the *judgment* which decides upon the merits of these performances, and the *emotions* which they excite, together constituting the complex state of mind called *taste,* belong to the department of intellectual, rather than physical education.

Physical education commences almost with existence. The new-born infant shows itself capable of sensations; if a pin is carelessly placed in its dress, its plaintive cries at once denote that it is born with the power of suffering: it is the sense of touch which is now the organ of communication. This same sense appears almost as early to afford enjoyment: the infant, while gratifying another sense, that of taste, in imbibing the food which nature provides for its sustenance, seems no less delighted in clasping with instinctive fondness the soft, kind hand which sustains its feebleness. If it is disquieted, the gentle tones of its mother lull it to repose; when it awakes, its eye unconsciously wanders, until resting upon the maternal smile, a new joy irradiates its countenance. This is the period which seems to distinguish the human being from the young of the brute species: no answering smile of love is ever seen among them; and although in the acuteness and perfection of their senses and in the rapid development of their physical powers, they usually surpass the infant, yet here the little immortal manifests the rational principle which is to endure forever.

It is with the infant, then, that physical education begins. Accustomed to constant rocking, or to being carried about in the arms, it forms a *habit* which requires indulgence. If it be early dosed with laudanum, elixirs, or ardent spirits, that it may be quieted or put to sleep, a habit is formed; this not only requires indulgence during infancy, but frequently lays the foundation for intemperance in after life. If the infant's head be suffered to recline most on one side, the habit is formed of keeping the head in that position, and the face itself grows awry. A child may be fed with the most disagreeable nostrums, until a fondness is acquired for that which at first was disgusting to the taste.

You perceive how early *physical habits* may be formed. Nor are *mental habits* less early or less strong in their growth and development; we shall at present confine ourselves to the former. We have already observed that the term physical, as applied to education, has relation to the body. Not that the body itself, strictly speaking, can form any habits; this is nothing more than a collection of particles of matter, which have previously existed under the various forms of animal or vegetable substances, and which will again be separated to appear under new aspects, forming parts of organic or inorganic bodies. These material atoms are not subject to any of the laws which govern mind; but while united to the mind they are governed by it. The body is an instrument which the mind directs; and as in this state of existence they must dwell together, it becomes of great importance that they should mutually promote the welfare of each other.

The mind may at times sigh for deliverance from its burthensome companion; it may be conscious that but for this it could range through the infinity of space, visit distant worlds, and exist in an atmosphere untainted by human follies: yet He, who made man, has thought proper to consecrate a union between matter and mind, so that in this life they compose but one individual.

Through the agency of the material particles to which it is united, the mind looks out of itself, and by sensations learns the properties of the material world. The senses are all dependent on material organs, though these organs are no more the subjects of sensation, than is an eye-glass of vision, or an ear-trumpet of hearing. The eye and the ear are themselves but as inlets, through which colors and sound gain access to the mind.

To learn then the best methods of rendering the bodily organs subservient to the good of the mind, is physical education. The body may be considered as a servant which the Creator of the mind has bestowed upon it, or a traveling companion for the journey of life. As we would strive to teach a servant his duty, to render him familiar with the offices which he will be required to perform, so should the body be trained to such exercises and duties, to such privations and efforts as the good of the mind may require. Whether, therefore, we regard the body as an instrument to be wielded by the mind, an humble companion, or a servant, the importance of attention to it, as closely connected with ourselves (for it is the mind which constitutes our identity) need not be urged.

The children of persons in the lower classes of society usually live wholly for the body. Play and labor, eating and sleeping make up the history of their early days. Or if they go to school and learn to read and write, their intellectual exercises are of so low a nature, as to leave the balance greatly in favor of the body. We sometimes see, even in such unfavorable circumstances, the workings of intellect, as if struggling to escape from the rubbish under which it lies; we see spirits endued with great power and force, burst opposing barriers and urge an onward course, mounting upwards like the eagle, impatient to gaze upon the fountains of intellectual light.

It is, however, rare for the children of very poor and debased parents to make such an escape from the chains in which mind is held by matter. The case of those who rise from obscurity and become intellectually great, does, in general, differ from this. Fortune often depresses parents whose aspiring minds never sink or become debased under any circumstances. Many a coarse and homely hearth sees gather around its evening fire, those who, after a day of toil, enjoy "the feast of reason, and the flow of soul," which cannot even be comprehended by many of the triflers who walk over rich carpets, and recline on luxurious sofas.

When looking at the sturdy child of poverty, whose ruddy face and sinewy form denote the full development of bodily powers, but whose dull and vacant eye indicates the absence of thought, we feel that the human being has not risen to the dignity of his nature. Destitute of moral elevation and intellectual culture, man is but little superior to the brute creation : it is only when all his faculties, physical, intellectual, and moral, are seen to act in harmonious concert, that he appears capable of enjoying or bestowing happiness.

A sound mind in a sound body ("*mens sana in corpore sano*") was an ancient motto, denoting the most perfect state of man as a human being; but as the field of knowledge has been widening by new discoveries, the intellectual part of mankind have fallen into the error of neglecting bodily health in their zeal for mental improvement. As respects our own sex, both fashion and increased attention to the mind have been alike injurious in producing habits tending to physical derangement and debility.

We have remarked upon the early formation of physical habits, commencing even in infancy. The senses then learn their duties; the touch corrects the errors of sight, and all reciprocally aid each other in informing the mind of the properties of matter.

The sensations are an important class of our mental faculties; for you must remember, that hearing and seeing are no less states of the mind than judging or loving. Education is employed upon mind alone. When the mother would teach her child to walk, she influences its *mind* to will the use of its limbs. She holds out an orange, and thus, by exciting the desire of possessing it, she tempts the child to move. The will, obeying the impulse of desire, and having power over the bodily organs, raises the feet, and impels the body towards the wished-for object.

The senses need no foreign aid to bring them into use; yet even with them, habit has great influence, as may be seen in those whose business leads them to the exercise of one sense more than another. The feelings of taste early mingle with our sensations: all children love music, and their future taste in this science depends much on their early associations. Pictures delight children, and according as those which are presented to them are well or ill executed, their taste with respect to them will probably be of a delicate or coarse nature.

All the motions of the body are subject to the influence of habit. Stooping while walking and sitting may become a habit, and it is equally easy to make an upright posture become such. Walking with the toes turned in, is a common habit; whereas the more graceful mode of turning them out, and thereby enlarging the base of support, and rendering motion or rest easier, might with equal facility be acquired.

It is, however, too late to warn most of you of the importance of childhood with respect to physical habits; you have all contracted those of some kind or other, either good or bad. But it should excite our gratitude to the former of our bodies, and the author of our minds, that strong as the power of habit may be, the mind still possesses a controling power to alter and correct what we see amiss, either in our physical, intellectual, or moral habits.

Neglect of physical education.

In common with many others who have taken a share in the education of the young, we feel that physical education has been too much neglected. In the mental efforts which the teachers, as well as pupils, of this institution have been obliged to make, in order to attain the desired standard of intellectual improvement, much has been suffered, through a neglect of exercise.

When the mind is deeply interested in literary and scientific pursuits, it is prone to forget the body; this, by being suffered to remain long inactive, becomes reluctant to move, and visits back such neglect, by headaches, languors, sleeplessness, indigestion, and a thousand other ills, tending to paralyze the mental energies. Aware as we all are of this danger, connected with the pursuits of knowledge, it is to be hoped we may profit by past experience, and retrieve, as far as possible, by a systematic course of exercise, the health which has been sacrificed.

Calisthenics,* or female gymnastics, is very properly becoming a branch of education. I have, however, seen with regret, that many of you appear to engage in physical exercises with reluctance, as if every moment taken from your studies were time lost. With the view already given of the intimate connection between the mind and body, you must be convinced that the latter cannot with impunity be neglected. And yet even our pleasant morning walks seem, by some, to be counted an unnecessary and tedious task, and youthful limbs are sometimes seen dragged heavily along, as if already touched by age and infirmity. An early walk in a fine summer morning to

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* From two Greek words, signifying grace and strength.

lassic Mount Ida,* will not only afford a needful phy-
exercise, but presenting you with a lovely picure of
ombined beauties of nature and art, tend to raise in
minds cheerful images, and to lead your thoughts to
luthor of all good.

'hose of you who have become interested in the dif-
t branches of natural science, particulary Botany and
ogy, have found a new interest in the works of nature,
iew motives now lead you to ramble over its wild and
stered scenes.

.s a branch of physical education, dancing is recom-
led by physicians ; when practised merely as a school
ise, it seems not liable to the objections which many
against promiscuous dancing assemblies. Connected

'he following description of the scene here presented, is extracted
Mrs. Willard's address on the "Advancement of Female Educa-

The stranger of taste, if directed aright in his survey of our sce-
cannot fail of finding exquisite pleasure. Persuade him to go with
t early morning, that he may stand on Ida-hill when the sun
As he reaches its utmost verge of almost perpendicular descent,
ns, and as his eye wanders over the goodly prospect spreading
round, his heart will be smitten with the intense feeling of beauty.
orning sun is shooting up his first rays behind him. The city
es in shade at his feet; and the majestic Hudson rolls dark be-
; but the sun-beams have kissed the tops of the distant moun-
and by degrees they throw their radiance on the nearer hills, and
from the spires of our neighboring cities. And look a lovelier
! See where the morning beams glitter from the Mohawk, and
en his many winding shores; where the mighty Indian stream,
ntic in his gladness to meet his sire, divides and subdivides his
s, and sports amidst his beauteous islands. And now the broad
on catches the joy, and is one long sheet of light. And mark how
ils grow white, as from the north to the south they move lightly
heerfully along; and now the city glows, and the green foliage
intermingling trees; and see what strange enchantment has
ed the dew-drops to diamonds, upon the nearer meadows; and
with glory the lesser streams that are meandering through their
d and flowery banks to seek the Hudson. Now, take another
full gaze at the scene, and you will declare, as you leave it, you
saw a lovelier landscape.

with physical education are music, drawing and writing, and indeed every pursuit depending upon bodily action; these will be considered under the head of accomplishments. Riding on horseback is a very healthy as well as graceful exercise; yet it is somewhat questionable whether there is not too much the appearance of display in a young lady's prancing through the most public streets of a large city. A rural excursion on horseback is more safe and proper.

In connection with the subject of physical education, I would remark, that I have obtained from the Corporation of Troy, a considerable addition to the seminary grounds. This acquisition will afford us the means of cultivating flowers, so that we may expect soon to see Flora take her station with the Muses.

The cultivation of flowers, and indeed every thing connected with gardening, has a most happy influence upon the disposition as well as the health. I scarcely know of an instance of a lady being at the same time ill-tempered and fond of cultivating flowers. I have known those to whom sorrow had become familiar, find in flowers a solace for a wounded heart. To the cheerful they suggest images of hope and happiness, and to the disturbed mind they seem to have a power of imparting serenity. It is not after a walk among those eloquent witnesses to the power and benevolence of God, and inhaling the morning air from their dewy petals, that a woman would be likely to use ungentle expressions towards her husband, her children, or domestics. It is when foiled in worldly ambition, when languid from dissipation, or disgusted with a round of empty amusements, that a peevish and irritable temper may be expected.

Beauty is essentially connected with health, and this
epends on *exercise, neatness*, and *temperance*. It is much
) be lamented that young girls are so frequently impru-
ent with respect to the care of health. I have spoken of
xercise but something more is necessary—it should be
ıken at proper hours, and in a suitable dress. An early
ıorning's walk in a pair of thin prunellas will be more
ıjurious than even the want of exercise. Unless the feet
re warm and dry the body cannot be in a state of health
nd comfort; and the danger from wet feet is much
reater where a person sits inactive, than when constantly
ngaged in exercise. The evil consists in the check
'hich this cold and dampness give to perspiration, and
ı their repelling the blood from the lower limbs, conse-
uently causing a rush towards the lungs and head, and
roducing coughs, head-aches, and nervous diseases. The
ǝet should be especially guarded from cold and wet, be-
ause they receive a large supply of blood to carry on a
reat degree of perspiration, and because their distance
'om the heart, which is the central point from whence
irculation proceeds, naturally causes a more languid flow
f the blood. The good old custom of former times, with
espect to the knitting and wearing woollen has given
lace to idleness, and cotton and silk hose. These mate-
ials are too light for our northern winters. A young lady
'ho, induced by the vanity of displaying a delicate foot,
ppears abroad in cold or damp weather with a stocking
nd shoe fit only for walking over a drawing-room carpet,
ıay succeed in attracting admiration; but she will not
ıil of receiving severe censure for her imprudence. What
ıan of sense would wish to marry a female who had no
rudence with regard to her health? Would the fortune

or honor of her husband be more dear to her than her own health and life? I am sensible that imprudence of this kind is often the result of thoughtlessness rather than vanity; young persons are not sufficiently aware of the danger of such exposures, and, having experienced little sickness, they forget the frailty of their natures, and what slight causes may give rise to fatal diseases. But having been warned by their friends, and their own sad experience, they are inexcusable if they continue in carelessness involving consequences so serious.

As to neatness, although it may not be ranked among the virtues, or the want of it considered as absolutely sinful, it is certainly necessary towards the perfection of the female character. A slattern may be learned, gentle, and pious, but yet she cannot be regarded with complacency. After admitting all her claims to our love, the heart refuses its affections, and we turn away with disgust. But it is seldom that external disorder is not either the *cause* or the *effect* of an irregular mind; it is seldom unaccompanied by disagreeable behavior. A consciousness of a want of personal neatness, leads to a want of self-respect, and a jealousy of the good opinion of others; its tendency is, therefore, actually to degrade the character.

Neatness of person requires *attention to the teeth.* Some very neat people clean their teeth after every meal;—no one, pretending to decency, should omit to do it thoroughly at least once a day. The most suitable time for this is before dressing, in the morning. I say before dressing, because I have seen a young lady brushing her teeth with charcoal dentrifice, after having dressed herself in a clean frock and cape, which could scarcely fail of being soiled in the operation. Fine soap and water, or a weak solution of common salt, are better for ordinary use than dentifrice, few kinds of which do not, in time, injure the enamel of the teeth. Where there are decayed teeth, the compound chlorine tooth wash furnishes a safe and cleansing application. But carious teeth would be much less frequent, did the young feel the importance of abstaining from what has a tendency to produce this defect. Some young persons use their teeth for nut-crackers, and because this does not at once destroy them, foolishly imagine it will do no harm. To this tendency of the mind to lose sight of consequences, unless they follow immediately after the cause, may be attributed much physical, as well as moral evil. "We must not suppose that because a *single* excess of any kind does not produce a *direct* attack of disease, it is therefore necessarily harmless. In the great majority of situations to which man is exposed in social life, it is the continued or reiterated application of causes which gradually, and often imperceptibly, ruins the constitution before danger is dreamed of."*

American women are accused of being remarkably negligent with regard to the appearance of the teeth. This reproach was formerly deserved more than at present; as the subject has of late been much discussed, and dentistry has become a regular science in our country, we see fewer young persons deformed by the want of teeth, or by bad ones. But we now, sometimes, behold a face, which, when the mouth is closed, looks bright and lovely, suddenly exhibit a most disagreeable change by the appearance of dirty and decayed teeth. Who has not, after mentally exclaiming, That is a pretty countenance, experienced a revulsion of feeling at the opening of a mouth, which betrayed a neglected set of teeth? Even the smile designed to win affection, may thus excite disgust.

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* Combe's Principles of Physiology.

Bathing is both essential to neatness and health. It is scarcely necessary to dwell upon the frequent use of soap and water, as connected with personal cleanliness, but, in order that you may understand its relation to health, it may be proper to give you some information, with respect to the functions of the skin. Besides performing the mechanical office of a shield to the parts beneath, the skin is admirably fitted, by the great supply of blood which it receives, for its use as a secreting and excreting organ. The whole animal system is in a state of constant decay and renovation; and while the stomach and alimentary canal take in new materials, the skin forms one of the principal outlets or channels by which the old, altered, or useless particles are eliminated from the body.

Every one knows that the skin perspires, and that checked perspiration is a powerful cause of disease and death; but few have any just notion of the real extent and influence of this exhalation. When the body is overheated by exercise in warm weather, a copious sweat soon breaks out, which, by carrying off the superfluous heat, produces an agreeable feeling of coolness and refreshment. This is the higher and more obvious degree of the function of exhalation; but in the ordinary state, the skin is constantly giving out a large quantity of waste materials, by what is called *insensible perspiration*, a process which is of great importance to the preservation of health, and which is called insensible, because the exhalation, being in the form of vapor and carried off by the surrounding air, is invisible to the eye; but its presence may often be made manifest, even to sight, by the near approach of a dry, cool mirror on the surface of which it will soon be condensed so as to become visible. The skin is ascertained to be endowed with the important charge of removing from the system about *twenty ounces of waste matter every twenty-four hours.* Thus we see why checked perspiration is so detrimental to health."*

We proceed now to consider the consequences which ensue from the neglect of bathing the skin; and this leads us to notice another of its important offices, called *absorption.* By means of this, such substances as are in contact with the skin, are taken up by certain of its vessels called *absorbents;* these are very minute, but so numerous that when a portion of human skin has been injected with mercury, it is said to resemble a sheet of silver. It is by means of these absorbent vessels of the skin, that ointments of mercury, and other substances, are taken into the system, and affect the constitution in the same manner as when received into the stomach. Vaccination affects the system through the agency of the absorbent vessels of the skin—a portion of the vaccine matter being inserted under the cuticle, or covering of the skin, and left to act on the surface of the latter, it is taken up by the absorbents, and soon, by peculiar symptoms, shows that it has affected the whole system. You will now readily perceive that when the matter which is thrown off by perspiration is suffered to remain on the surface of the skin, or kept in contact with it by neglecting to change the clothing; this animal effluvia, which is of a poisonous nature, must be absorbed and will act on the system. Physicians say that, this cause alone, is sufficient to produce inflammation, fever, and even death. The pores of the skin, where bathing is neglected, become obstructed by the salts and animal matter of perspiration, and thus the necessary exhalation is impeded.

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* Combe's Principles of Physiology.

Though conveniences for bathing may not be at hand at all times, soap and water with a sponge and towel can always be had. It is asserted by those who are best acquainted with the physiology of the human system, that most mental and nervous diseases arise from neglect of the skin, and that the first thing to be considered in their treatment, is the recovery of its healthy action, by the use of flannel, warm baths, and friction with a flesh brush. But it is far better to preserve health, than to be obliged to seek for remedies when it is gone. Dr. Andrew Combe remarks that few who have the steadiness to keep up the action of the skin by proper care, and by avoiding strong exciting causes, will ever suffer from colds, sore throats, or similar complaints. "Man," he says, "studies the nature of other animals, and adapts his conduct to their constitution; himself alone, he continues ignorant of, and neglects. He considers himself as a being of a superior order, and not subject to the laws of organization which regulate the functions of the inferior animals;—if one-tenth of the attention and labor bestowed in the care of horses were bestowed by the human race upon themselves, to the condition of their own bodies, in attention to diet and clothing, colds, nervous diseases, and stomach complaints, would cease to form so large an item in the catalogue of human miseries."

LECTURE VII.

Temperance. Habits with regard to dress and care of clothing. Curvature of the Spine. Injuries from tight lacing.

TEMPERANCE is essential to health; the habits on which it depends may properly be treated of under the head of physical education. Intemperance is of various kinds, including excess in any pursuit, or indulgence; in its most limited sense, it signifies the free and improper use of intoxicating liquor. To this vice we can scarcely imagine a young lady addicted, and yet we may sometimes see its seed beginning to germinate in a fondness for wine, or some delicate cordial. No young female in health, should indulge at all, even in the occasional use of wine, strong beer of any kind, stimulating cordials or cider. From the physical and mental constitutions of women, they are even in more danger than the other sex of acquiring the habit of resorting to stimulants and opiates, for disorders of the nerves and of the heart; their operation is more powerful on the system of the female, and in this sense certainly, she has the *weaker head.* Whatever may be said by those who claim to regulate the etiquette of a dinner, I cannot admit that a lady may not have the liberty of declining an invitation to take wine, since there are those who cannot taste the smallest portion without being unpleasantly affected by it. Should it be said that a lady can take a glass of wine without more than *seeming* to drink, I answer that this is deception, which even in the most trivial cases should be avoided. Why not fill your glass with water and drink this purer element in pledge of your good will? Some of our writers on temperance would do well to consider the effect of the custom I have alluded to, in promoting the use of wine. So long as it is thought proper and polite for gentlemen at the dinner table to ask ladies to take wine with them, and uncivil for a lady to refuse, we must expect wine will be freely used among both fashionable people, and those who desire to be thought such.

But my object, now, is to consider temperance in regard to diet. Not that I am an advocate for that system of boarding-school starvation, where, under pretence of making them delicate, or teaching them habits of temperance, girls are not allowed nourishing food in sufficient quantities to supply the demands of nature. I doubt not the foundation of future weakness and disease has often been laid in a long course of lean and scanty fare. But I am supposing that you have access to a table plentifully supplied with good and wholesome food. I would not counsel you to indulge in eating a great deal of meat, or in the free use of gravies and butter : this not only renders the skin gross, and produces disagreeable eruptions ; but by heavily taxing the digestive powers when these can be little stimulated by exercise, causes the re-action upon the brain, producing headaches and sluggishness, and rendering study irksome if not impossible. It is not only important during your school days that you should be temperate in eating, but equally so that the good habits you now form, should be continued hereafter. You should acquire a government over your own appetite, so that when a great variety of dishes is before you, you can be satisfied with the most simple, without a desire to taste of every kind. Young persons are usually fond of fruit; and sometimes, when partaking of a dessert which combines a great variety, seem to forget that it is vulgar to eat of every good thing which may be before them, and will either cause people to suspect they are not accustomed to delicacies, or that they are *petits gourmands*. Your greatest danger at present, with respect to intemperance in eating, is in private indulgence in feasting on the plum-cake, rich pies, pickles, sweetmeats, &c. with which your kind but injudicious friends may furnish you, or which you may have an opportunity of procuring for yourselves. In my remarks upon the "idle and careless pupil," I have noticed the habit of eating fruit, nuts, and confectionary, at improper times, and in an immoderate manner: but I would here remark, that self-indulgence in this respect, and in the cases just alluded to, is not always confined to this class of pupils; it is the besetting sin of school-girls, who, feeling the want of the enjoyments of home, seek to make amends for them by seizing on such gratifications as they can command, without reflecting upon the waste of money, health, and mental energy, which they necessarily lead to.

We have now considered *three essentials of health and beauty;* viz. *exercise*, *neatness*, and *temperance:* it remains to make some remarks on *dress*, which is a correlative subject.

Neatness requires, not only that the person shall be clean, from the head, teeth, and finger-nails to the feet, but that every part of the dress shall be clean, whole, and put on in a proper manner. Some young ladies, who think much of their outer garments, are careless with respect to such as are not intended to be seen: this is the true characteristic of a slut, in the broadest sense of the term. Every neat woman is careful to have her underdress and night-clothes whole and clean; though it may not be consistent with the circumstances of all, that these garments shall be of fine and costly materials. I have known girls who would be shocked at the idea of wearing a frock with the sleeves less in dimension than would be approved by the most fashionable dress-maker, who seemed to think little of having their shoe-ribbons tied in knots, pinned on, or even if one were missing. Some are anxious to practise the most fashionable mode of dressing the head, while they neglect to mend a rent in a dress or apron, or to sew up the rips in a pair of gloves. A fine cambric handkerchief may occasionally be seen stained with ink or fruit—indelible marks of the carelessness of its owner. But of all the disagreeables in a young lady's dress, none exceed that of untidy-looking stockings and shoes. When you darn stockings, as I trust you all know how to do, be careful to fill up every thin place which might be likely to give way on putting them on; do not be saving of stitches in darning stockings, for a "stitch in time" is here of much importance.

Before leaving home, many of you had been accustomed to the watchful care of a mother, or some maternal friend, who saw that your wardrobe was kept in order; you were perhaps dressed neatly, with little more care on your own part than the doll, whom, in your turn, you petted and dressed. But time carries changes upon its rapid wing: the inanimate object which in childhood you had loved and cherished, as if it were in reality endowed with the qualities which imagination delighted to bestow upon it, now ceases to interest—you see it as a thing of mere wax, wires, and paint; but you begin to comprehend that God has committed to your charge a being of infinite value, which you may not neglect, or leave to the care of others,—that this being is yourself, respecting whose necessities, and whose improvement, you have hitherto, of all things, been most indifferent. Your parents, impressed with the importance of your acquiring habits of attending to your own wants, and seeing how strongly you are inclined to depend upon them, as in your days of childhood, have perhaps placed you abroad, for the very purpose of leaving you to make a character for yourself, to suffer the consequences of self-neglect, and to profit by, perhaps, a mortifying experience. Your mother is not here to inspect your appearance before you go into the street, take your place at table, or in your classes: she cannot tell you that your hair is disordered, your dress not properly fastened, or torn and dirty; she cannot remonstrate upon the appearance of your stockings, or direct you to tie your shoes; but she has often given you directions respecting these things, which if you fail to follow, you must suffer the consequences. These will be reproofs from your teachers, contempt from your companions, and the general character of being deficient in personal neatness; besides all, you will be confirming yourself in the habits of a slattern, which you will not be likely to get rid of in future years. An untidy girl will scarcely fail of being a sluttish woman. Scrutinize your habits with respect to neatness and order —look to the condition of your drawers and trunks, your work-baskets and writing-desks, your wash-stand, closet, and apartment generally—see whether every thing is in its proper place, neatly arranged, and fit for use; in short, whether all is as your mother, or other neat and orderly matrons, would approve. If you find yourself guilty, set about the work of reform without delay; rise an hour or two earlier, that you may find time to bring order out of confusion, to mend and complete unfinished articles, and to arrange and systematize.

Intimately connected with the subject of health, and habits respecting the person, are the modes of sitting when studying or sewing, practising at the harp or piano, writing, drawing, &c., and of carrying the body when walking or standing. On these habits it depends, whether the person shall be erect and well proportioned, or deformed by a curvature of the spine, and an unequal projection of the hip and shoulder. In the illustration of this subject, I prefer to employ the language of a physician,* rather than my own.

" The weight of the principal part of the body or trunk, the weight of the neck, the head and the two upper extremities, are supported by a single bony column, called the spine. This column is about three inches in diameter. It consists of twenty-four pieces of bone placed one on the other; and between each two is interposed a substance, somewhat resembling caoutchouc, or India-rubber, for the purpose of giving it elasticity. This column is hollow, and contains the spinal marrow. Now the spinal marrow is the origin and source of the nerves, that convey the influence necessary to voluntary motion; and they are sent off in pairs to the various muscles. The bony pieces of the spine are confined together by many small ligaments, by the elastic substance just spoken off, and by numerous muscles, affixed, not only to connect and support, but also to move them.

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* See Dr. Warren's Lecture on Physical Education before the American Institute of Instruction.

" The bones of the spine, at an early period of life, are themselves in part composed of an elastic, cartilaginous, or gristly substance, and are always of a porous and sponge-like texture. In consequence of this kind of organization, the spinal column possesses much elasticity and flexibility, which enable it to yield and to move in different directions, and expose it to receive permanent flexures, when there is a deficiency of natural strength in its composing parts.

" Causes which affect the health, and produce general weakness, operate powerfully on this part, in consequence of the complexity of its structure, and the great burden it supports. When weakened, it gradually yields under its weight, becomes bent and distorted, losing its natural curves, and acquiring others, in such directions as the operation of external causes tend to give to it; and these curves will be proportioned, in their permanence, to the producing causes. If the supporting part is removed from its true position, the parts supported necessarily follow, and thus a distortion of the spine effects a distortion of the trunk of the body.

" The change commonly begins at the part which supports the right arm. The column bends towards the right shoulder, forms a convexity on the side where the shoulder rests, and thus elevates the right higher than the other. This elevation, or, as it is commonly called, growing out of the shoulder, is the first phenomenon that strikes the friends of the patient. Often when observed, it has already undergone a considerable change of position, and the change is not confined to the shoulder, nor to the portion of spine immediately connected with it. On examination it will be discovered that the curvature to the right in the upper part of the column, is accompanied, as a natural consequence, by a bend of the lower part of the left, and a corresponding projection of the left hip. It is perfectly obvious, that the inclination of the upper part of a flexible stick to one side, will leave the lower part on the others; and when, by this inclination, the vertical support is lost, a disposition to yield at the curving points will continually increase, until it be counteracted by some other power. Thus it happens then, that any considerable projection of the right shoulder will be attended by a corresponding projection of the left hip.

"The rising of the shoulder involves other changes in the osseous* fabric. For as the spinal bones support the ribs, when these bones project they necessarily push forward the ribs dependant on them. These ribs form the frame of the chest, and of course the right side of the chest is projected forwards, and causes a deformity in the forepart of the body. Nor do the changes stop here. The posterior ends of the ribs being pushed forwards, and the anterior ends being confined to the sternum, or breast bone, the right edge of the sternum will be drawn forwards, and the left edge consequently turned backwards. The fore parts of the left ribs will be gradually forced inwards or backwards, and thus the left side of the chest distorted and contracted. I feel warranted in the assertion, that of the well educated females within my sphere of experience, about one half are affected with some degree of distortion of the spine."

[*] Bony, from *os* a bone.

"The habit of bending the neck, while writing or drawing, gradually compresses the vertebræ, and the intervertebral substance on their anterior part, and causes a permanent change in the form of this part of the spinal column. This distortion is so very common among us, that we are apt to consider it a natural formation. In fact, however, it is entirely artificial in a great number of instances. Sometimes it is the consequence of negligence, and not unfrequently of timidity. Whether it tends to impair the health always, I will not say; that it sometimes does, I am certain; and its effect in deforming the shape is even greater than a moderate degree of lateral curve.

"The immediate cause of the lateral curve of the spine to the right, opposite to the right shoulder, is the elevation and action of the right arm in drawing and writing. This posture pulls the part of the spinal column, to which the muscles of the right arm are fixed, to the right side. The convexity of the spine thus produced, keeps the right shoulder elevated, and the left consequently depressed. The lower part of the column is thrown to the left side, and thus displacement being favored by the disposition to rest on the left foot, while standing to speak or read, there comes to be a permanent projection of the left hip. The postures employed in practising on musical instruments sometimes bring on these disorders: as, for example, a great use of the harp favors the disposition to lateral curvature, from the constant extension of the right arm."

The mode of sitting at the piano ought to be no less carefully regarded. If you comprehend the explanations with respect to the construction of the spine, or back bone, you will perceive how important it is that it should be held erect, and that by indulging yourselves in a crooked posture, the figure will at length grow distorted. You know that if you should keep a straight young twig confined in a bent position for a length of time, it would become a crooked tree. We should think it a strange taste in a gardener who should thus wish to pervert the beautiful and perfect works of God. A crooked tree might indeed bear good fruit, and if any of you are, by nature, distorted in body, you must endeavor to supply the defect by richness of mental culture.

In France, great pains are taken with children to give them the habit of holding back the shoulders and expanding the chest; and it is said that the collar bone is longer in French women than in others. The posture in bed should not be habitually such as to cause a crooked position of the spine. High pillows are injurious as they produce the same effect upon the form as stooping.

With respect to walking, the carriage of the body must depend greatly on the perfect state of the spine; the custom of holding the head up, the shoulders back, and throwing the chest forward. You may all do much to improve yourselves in these respects by walking in your rooms with a book upon your head. In order to balance the book, you must necessarily hold your persons erect, and instead of looking down, as young ladies are very apt to do, direct your eyes horizontally. "How different," says the physician already quoted, "are the impressions made on us by a man whose attitude is erect and commanding, and by one who walks with his face directed to the earth, as if fearful of encountering the glances of those he meets! Such attentions are even of greater importance to the fair sex, where we naturally look for attraction in some form or shape. If nature has not given beauty to all, she has given the power of acquiring a graceful movement and an upright form, qualities more valuable and more durable than the other."

One more subject connected with physical education, is the habit of *tight lacing*. In enabling you to comprehend the manner in which this practice becomes injurious to health and destruction of life, we again refer to Dr. Warren's lecture:

"Nature has so contrived the human chest, that there is no superfluous play of the parts composing it. Its movements are just sufficient to give such an expansion to the lungs and such an extent of oxygenation of the blood, as are adequate to the wants of the individual under different occurrences. In females the chest is shorter than in males; and to compensate for this, the motion of the ribs is more extensive, and more frequent. Whatever limits this motion is peculiarly injurious to the sex, especially as they are more disposed to consumption and other chronic affections of the lungs. Now the ligatures in the fashionable dress are placed precisely on that part where the motion should be the greatest; that is, the lower part. It is precisely here, that in case of fracture of the ribs when we desired to stop the movements of the chest, we apply a tight bandage, though rarely do we venture to make it so tight as the ordinary corsets. The effect of such pressure, begun at an early period of life, will be understood from what has been stated in regard to the spine. The bones must yield to it; their shape becomes permanently altered; the lower part of the breast contracted, the space destined by nature for the heart and lungs diminished, and what the fatal results of all this on these tender and vital organs are, every day's experience shows us.

The influence on the health though slow, is certain. It may not at once produce consumption; but it lays the foundation for ills it would pain you to hear and me to describe. I will only say, by way of specification, that among other diseases, of which this is the fruitful germ, I have known three instances of perpetual headache, at last bringing on insanity, and terminating in death. The immediate cause of the disease was the compression of the heart and great blood vessels, and the consequent accumulation of blood in the head."

You cannot fail to comprehend this simple explanation of that part of your own frames which you too frequently expose to derangements, from the foolish ambition of appearing slender and sylph-like. But, although the circumference of the waist may be diminished, the appearance of the whole person, so far from being improved, is much injured by tight lacing. A rush of blood to the head gives the face a purple and unnatural flush; the muscles which give play to the arms and shoulders being confined, the motions appear stiff and ungraceful, the breathing is obstructed, and the whole body rendered uncomfortable. In such a situation, who can converse with ease and confidence, and delight the social circle by a fine flow of thoughts, and beautiful mode of expression? The mind, partaking in the sufferings of the body, becomes torpid, and instead of giving and receiving enjoyment in the hours devoted to society, torture on the part of the victim and pity for her manifest sufferings are experienced.

Corsets, when properly made and worn,* are far from meriting the general condemnation which they have received. They may be so made as to prove a support to the body instead of an injury. A degree of tightness, not uncomfortable nor impeding any of the functions of respiration, is probably conducive to health. It prevents that weakness of the stomach of which many females, especially those who do not wear corsets, frequently complain. A moderate compression of the chest is thought also by physicians to check a tendency to dropsy. Indeed, it is with corsets, as many other things, that it is the *abuse*, rather than the use of them, which should be condemned.

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* I will explain what I mean by "corsets being properly made and worn." They should be made to sit perfectly easy to the form, and worn so loose as to allow a long and full inspiration of the breath. The

busk should be bent to the shape; and, moreover, to be of an elastic material, which will bend so as to admit of stooping forward, when necessary. In dressing in the morning, the corsets should be laced very loose, for it should be remembered, that after many hours of repose, the body is smaller than when exercise and food have increased the circulation of the blood, and by inducing an additional portion of caloric into the system, expanded the fluids. In these days of extremes, it is becoming unpopular to be moderate in our sentiments on any subject;—the advocate for temperance is urged forward by an *intemperate* zeal, until sacrilegiously seizing upon the consecrated wine, commanded by the Savior to be received as "a memorial of his blood shed for the remission of sins," he gives a *new commandment* to the humble believer, viz. that "*not wine* but *water* shall be used in this sacrament!" The friend of humanity and of the negro, cannot bewail the evils of slavery, without carrying compassion to such a point as to set at naught, or at least endanger the safety of his country, the lives of his white brethren, and even the interests of civilization and religion.

It is popular to rail against corsets;—all the evils which arise from neglect of physical education and too great excitement of the brain, and from the prevailing bad habits which fashion and refinement have introduced, all are attributed to that dreadful instrument of torture, the corset. It is true that many have suffered from the improper use of corsets; it is also true that many houses have been burnt through the use of fire; but in the first case, the evil must be voluntary and self-inflicted,—in the second, it may occur wholly by accident; therefore, all the arguments, with additional ones, may be urged against the use of fire in our dwellings, which may be brought to bear against corsets.

A worthy gentleman after having expressed great horror of ladies wearing corsets, honestly said,—"I will acknowledge, however, that I do not know what sort of a thing a corset is" A lady present replied,—"Why, sir, it is very much the same sort of garment as the vest you have on, except that the one fastens in front, and the other behind."

I would here recommend a practice suggested by a French writer,* viz. that of keeping a kind of physical journal, or a record of observations upon your own constitutions. In order to make these observations, it will be necessary to pay particular attention to the degree and kinds of exercise most conducive to your health, the quantity and kinds of food most salutary, as well as the best seasons for taking particular kinds of food. Thus some persons find that breakfasting upon meat makes them dull and heavy, while the constitutions of others require more of solid food. Late suppers are always injurious. By attention to physical changes, and an observation of those simple remedies, which are found efficacious in relieving slight complaints, females may learn to preserve and regulate their own healths without the aid of a physician, except in cases of sudden and acute diseases. A knowledge of Chemistry and Botany will prove of great use to you, with respect to an acquaintance with medicine. Every woman ought to understand the elements and composition of the remedies provided for her, or by her administered to others. Without a knowledge of Chemistry she cannot be made to comprehend this, but, with it, she holds a key that will unlock the mysteries with which ignorant physicians have sought to envelope the healing heart.

If you ask a physician the component parts of a medicine which he orders, and he is unable to answer, you have reason to doubt his qualifications for his profession. Scientific practitioners do not fail to investigate the chemical elements of the substances they use, as it is by a knowledge of these elements, and of their modes of combinanation, aided by experience, that they can calculate on the effects to be produced. A knowledge of Botany will enable you to ascertain with certainty the identity of plants which are important as medicinal agents; the common names of plants being traditional and local, it is impossible to decide on them with certainty; but Botany will furnish you with a sure and unerring guide to their true name, as recognised by physicians.

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* M. Jullien.

In the department of your journal devoted to physical changes, it would be well to keep a record of medicines whose effects you had witnessed on yourselves or others, with their composition and nature; if vegetable remedies, give their botanical names and characters. Females have much need of some medical knowledge, both with reference to their individual maladies and the diseases of those around them; and although accustomed, as most of you have been, to be watched over and administered unto, you can now have little conception of the changes which will take place, yet the time may soon arrive when it will become your turn to watch over and minister to others.

According to the arrangement which we have made of the departments of education, we shall next proceed to consider *intellectual improvement.*

This involves the subject of mental discipline, and the consideration of the various branches of study in which you are now engaged. Even the study of moral philosophy, considered as a science, properly comes under the head of intellectual improvement, though as an art, or in its practical application, it belongs to the ethical or moral department.

In remarking upon the different branches of study, it will be my object—1st, to give general views of the history and progress of each science; 2d, its prominent prin ples and its relations to other sciences; 3d, its objects practical applications. I may depart from this method some cases, as where it seems most proper to consi first the principles of a science, or where it appears un cessary to treat of the history of a science distinctly fr its outlines.

PART III.

INTELLECTUAL CULTIVATION.

LECTURE VIII.

Division of Mental Faculties.—Mental Discipline.
Cultivation of Mental Faculties.

The mind the object of education.

THE mind is the object on which education operates. Even those habits which seem to depend wholly upon the body, we see have their origin in the mind, without whose vivifying influence the human machine would be as inactive as the marble statue, or the body from whence the soul has departed. Physical education has relation to the mind, as governing the body, and capable of making it the willing and ready instrument of a variety of sensations and muscular movements; it also includes that care of the body, which is due to it as the tenement of the soul, and on whose sound condition the welfare of the latter so much depends.

Before proceeding with our remarks on intellectual mprovement, it may be proper to give the outlines of a classification of *the states of mind,* which has of late been received with great approbation both in Europe and America; I mean that of Dr. Brown, to which allusion has already been made. According to this, all our mental phenomena may be referred to three great classes—first, *External states of mind;* these include all our sensations, as derived from *smell, taste, touch, hearing,* and *sight,* and also all the feelings which arise from the action of the muscles; or which are raised in the mind from external objects, or from bodily changes. Second, *Intellectual states of mind,* these include what some writers have called the *reasoning powers,* the powers of the *understanding, intellectual* powers, &c. Third, *Emotions;* these include what have sometimes been termed *active powers;* but the mind, when in that state called *hope,* or *joy,* is no more active than when engaged in *reasoning* or *imagining;* a classification must, therefore, be defective which makes a property common to both classes the foundation of such a distinction.

The intellectual states of mind, and the emotions united, form a more general division, called *internal* states, in contradistinction to *external.* These internal states are such as the mind could experience, were it separated from the body. If a human being could live with the entire loss of all his bodily senses,* although he would be cut off from all external objects, yet we can conceive that he might *remember* the past, he might *grieve* for his melancholy fate, and might *hope* for death to set his spirit free from its living and breathing tomb. It is this capacity of the mind to "enter into its own sanctuary and to commune with itself," which, as Dr. Brown remarks, renders it "truly immortal," and independent of the perishable atoms to which it is now united.

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* This supposition is not as absurd as may at first be imagined. Aged persons sometimes gradually lose their sight, hearing, taste, and smell; and yet they are no less living beings than before the loss of these senses. We cannot suppose that the only remaining sense, that of touch, is the link between life and death. Instances too have occurred in which persons have been under the influence of a general paralysis; that is, they have been wholly incapable of muscular motion, and almost insensible to touch, and this without being rendered incapable of intellectual effort or of emotions.

Fearing that I may not have done justice to Dr. Brown's classification, I will repeat it in his own words. "We have *sensations*, or *perceptions* of objects that affect our bodily organs; these, I term the *sensitive* or *external affections* of the mind; we *remember* objects, we *imagine* them in new situations, we *compare* their relations; these mere conceptions, or notions of objects and their qualities, as elements of our general knowledge, are what I have termed *the intellectual states of mind;* we are moved with certain *lively feelings*, on the consideration of what we thus perceive, remember, imagine, or compare, with feelings for example, of *beauty*, or *sublimity*, or *astonishment*, or *love*, or *hatred*, or *hope*, or *fear;* these and various other vivid feelings analagous to them, *are our emotions.* There is no portion of our consciousness which does not appear to me to be included in one or other of these three divisions. To know all our *sensitive states*, all our *intellectual states*, and all our *emotions*, is to know all the states or phenomena of the mind."

In treating upon physical education, we have considered the mind in relation to its external affections. We shall now proceed to consider our second division of the departments of education—intellectual improvement; this will comprehend Dr. Brown's second division, or the intellectual power.

In entering upon the subject of intellectual improvement, a vast field opens before us ; it will be impossible to do more than to take a rapid and cursory view of the many important subjects which present themselves. We shall consider in what manner the mental powers should be disciplined in order that they may strengthen and develop themselves, and then proceed to notice the various branches of literature and science which are the subjects of your present studies.

We have seen, under the head of physical education, how much depends on habit, and it was there remarked that intelligent habits are as early formed, and of as permanent a nature as those which relate to the body. Mr. Locke observes, " We are born with faculties and powers, capable of almost any thing ; but it is only the *exercise* of those powers which gives us ability and skill in any thing, and leads us toward perfection. As it is in the body so it is in the mind : practice makes it what it is, and most even of those excellences which are looked on as *natural endowments*, will be found, when examined into more narrowly, *to be the product of exercise*, and to be raised to that pitch only by repeated actions." Many of you can bear witness to the truth of Mr. Locke's assertion, respecting the power of habit. You will recollect the difficulty you at first found in investigating the subjects you were required to study. Accustomed, as many of you had been, to a mechanical parrot-like mode of recitation, where the memory and not the understanding was taxed, you felt that it would be impossible to study and recite as your classmates did. You heard them give long analyses of works on rhetoric, history, or philosophy, explaining in their own words, with clearness and facility the ideas of their authors; and you believed yourself wholly incompetent to the attainment of such powers. You heard, with astonishment, those of your own age demonstrating with clearness and force some of the most difficult mathematical propositions, and you gave them credit for faculties of a higher order than you possessed. You now look back on those feelings with mingled emotions of shame and pride; of shame that you should thus have undervalued your own talents, and pride that you have overcome obstacles and acquired a habit of patient investigation. This habit is of infinitely more importance than all other intellectual attainments. Were a person accustomed to reasoning, reflecting, comparing and judging, to be required to give up those mental habits, or the knowledge gained by their means, he would not hesitate to part with acquisitions already made, rather than to lose the instruments by which they had been gained. Persons who have gained wealth can lay aside those habits of business by which it had been amassed, feeling assured that they shall be able to meet their future wants; but the treasures of knowledge, although rich, may not thus answer for future occasions;—in the ever varying, ever changing scenes of life, we are continually placed in new situations, where we need to make new comparisons, and act on new principles: thus we require the instruments of mental labor to be ever bright and ready for use.

In the view we are now taking of education, considered in reference to the nature of the mind, it may be well to note those mental faculties which it is the object of *intellectual* *improvement* to cultivate and develop. I shall not, as we proceed, confine myself to that peculiar view of the mind which the author, whose general divisions I have adopted, has given, but shall use the terms *reason, judgment, memory*, &c. according to their general acceptations, viz., as distinct powers, they may be considered as *genera*, belonging to the class *intellectual* powers. I shall use this arrangement for the sake of convenience, although the minuter analysis of Dr. Brown very justly reduces the many supposed intellectual powers under the two generic terms, *simple* and *relative* suggestion, the former including conception, memory, imagination and habit; the latter reason, judgment, abstraction, the power of generalizing, &c.

We may now consider the human mind as a garden laid out before us; he who created this garden, planted in it the seeds of various faculties; these do indeed spring up of themselves, but without education, they will be stinted in their growth, choked with weeds, and never attain that strength and elevation of which they are susceptible. In one part of our garden, the germ of reason is seen to unfold itself, in another appears that of memory, in another that of judgment, until all the faculties of the intellect are in their full progress of development. The emotions and passions are mingled with powers of slower growth; while the intellectual gardener cultivates the latter with assiduous care, he knows that the passions need his most vigilant attention; that if they grow rank and unpruned, like the fatal Bohan Upas tree, which poisons every thing within its atmosphere, they will destroy the vital principle of virtue, and the moral harmony on which the beauty of the character depends. Leaving the passions and emotions to be hereafter considered, our concern now is with those mental germs which belong to the intellectual department. The skilful gardener knows that his roses require one mode of culture, his tulips another, and his geraniums another; and that attention to one of these, will not bring forward the other. So ought the mental cultivator to understand that the germs of the various faculties should be simultaneously brought forward. This truth seems not to have been understood by those, who, bending all their efforts towards the cultivation of the memory, have neglected the other powers of the mind.

To illustrate what is meant by these remarks, I will state a very common fact with respect to pupils whose memory has been cultivated at the expense of the other faculties. Many such have entered this institution, flushed with the hope of standing highest in their classes, as they had done where only *memoritor* recitations were required. Confident of knowing "every word of her lesson," such a pupil enters her class expecting that all will admire the fluency with which she shall "say it off." Her teacher, instead of suggesting the mere words of the lesson, perhaps demands the nature of the subject she has been studying: this unexpected question confuses her; for the truth is, she has never investigated it at all; she had not learned that words are nothing, except as they are the medium of communicating ideas; she had always taken the shadow for the substance, and is now astonished that she had never before thought it necessary to understand what she learned.

The mental habit of connecting words by the mere relation of contiguity, is very injurious to the mind; when a pupil becomes aware of the unprofitableness of the exercise, it is often difficult to call forth the reasoning powers, which have hitherto lain dormant. On the other hand, that exercise of memory which depends on contiguity or juxtaposition, should not be neglected. In the acquisition of certain sciences, and in certain departments of literature, it is important that some things should be learned by rote; as, in languages, the declensions and conjugations of words; and in arithmetic the numeration and other tables; portions of Scripture and hymns also should be taught to children, even though they are above their comprehension, for in after life they may be remembered with deep interest and satisfaction. As the other powers develop, the faculty of remembering words in a certain order is weakened; thus it is that persons accustomed to deep thinking, find it almost impossible to learn any thing by rote; this is because their powers of reasoning and judging have been much more exercised than their memory. Those who acquire habits of committing words to memory, often acquire a wonderful facility in this respect; as actors, who learn long parts in a play in a very short time; and some orators and preachers, who are said to commit to memory the whole of their discourses before they appear in public.

We should not, however, expect that a mind, fertile in suggestions of analogy, glancing quick from cause to effect, and from secondary to primary causes, would possess this kind of local memory in a great degree. Of some persons, distinguished for the greatness of their conceptions and the richness of their acquirements, it has been found that even their own productions have, in progress of time, been forgotten by them;—others, when writing upon a subject they had before treated of, seem to forget what they had before written: their thoughts taking a new turn, their language and arrangements are essentially different. It is not my present intention to give a dissertation on the mind, any farther than to show why it should be studied by those who would succeed in its cultivation, and that it is important for you, as students, to learn as much as possible of your own mental constitutions. Besides the general laws, which are common to all minds, each has its constitutional differences, and its peculiar habits. Where you find your mind most weak by nature, you should strive to strengthen it by suitable exercises. Where you find your intellectual habits defective, you must endeavor to change and improve them. For those who have been little accustomed to the exercise of the reasoning powers, it is well to enter upon a course of mathematical studies. Locke says, "I consider mathematics as a way to settle in the mind a habit of reasoning closely and in a train; not that I think it necessary that all should be deep mathematicians, but that having got the way of reasoning which that study brings the mind to, they might be able to transfer it to other parts of knowledge as they have occasion."

The same writer observes, in another part of his "Essay on the Human Understanding," that an acquaintance with even the first book of Euclid's Elements of Geometry is of great use to the mind, as unfolding a beautiful and systematic method of reasoning.

I shall close this lecture, by giving a few rules, to assist you in the attempt to improve and discipline your own mental powers.

1st. *Study the nature of your own minds.*

In order to assist you in this, compare yourselves with others. Observe their recitations, the particulars in which they excel or are deficient. Notice whether they find the same difficulties that you do. It is also a very useful exercise for two or more pupils of nearly equal abilities, to write upon some one given subject, and then compare their ideas and manner of treating the same subject. While you should be careful not to set your mark too low, and thus fail of what you might attain; it is also important that you do not tax yourselves too heavily, and thus injure the mind by overstraining its powers.

2d. *Never consider a lesson learned until you can give the author's ideas in your own words, or at least till you can point out the prominent parts of which it consists.*

This method of studying is the reverse of learning by rote; it is acquired by practice, and is the only proper way of attempting to gain knowledge. It is impossible, after having read several pages of a work, to remember every idea which an author has advanced; you should therefore strive to comprehend the main scope of his argument, and not dwell upon the less important ideas. Many pupils, from attempting to remember every thing, fail in attaining a clear knowledge of any thing. This habit of discriminating, in reading and studying, will be of great utility in after life. A facility is thus gained of collecting, almost at a glance, the subject of a whole page.

It is by following the rule above given, that some of your fellow students have been able to give an analysis of the unabridged volumes of Stewart's or Brown's Mental Philosophy. They could never have accomplished so Herculean a task, but that they first learned the leading argument of each page, then of each chapter, and lastly, of the principal divisions.

3d. Accustom yourselves to *express your ideas on the various subjects of study, in writing.*

The practice of writing an analysis, or making a sketch of the lessons you are studying, is a very good one; but this cannot be done until you have prepared yourself for it by some previous study. By attempting to make an outline, before a view of the whole has been taken, the mind is confused rather than assisted. It is well to make the sciences you study the subjects of your weekly compositions, sometimes taking them in one point of view, sometimes in another.

4th. *Improve the best hours of the day to secure those lessons which require the greatest mental effort.*

The season most favorable for study is, with most persons, the morning; the body being then refreshed by sleep, and the mind by a suspension of effort, your most difficult lessons, as mathematics, or philosophy, should be studied. Drawing, music, botany, chemistry, and other pursuits which are not of an abstract nature, can excite an interest even when the mind is fatigued, but when it appears in any degree overstrained, it should be suffered to relax. It is evident that in all intellectual as well as mechanical labor, the *work accomplished* must be in proportion to the *power* exerted. When the mind is languid it is impossible for it to put forth power, nor can time make up for mental energy. One hour of successful effort is worth more than days of weak attempts. In order to keep the mind ready for action, regularity must be observed in exercise, diet, and sleep: they gain nothing who disregard the body in their zeal for mental improvement; for, if disordered, or enfeebled, it will certainly react upon the mind.

5th. *Endeavor to fix your attention exclusively upon the study in which you are engaged.*

Attention is indeed every thing; without it nothing requiring mental effort can be well done. In bodily operations we may acquire so great a facility of execution that we have no need of attention: thus a musician can perform a familiar air without thinking of his notes. Some feminine employments, as sewing or knitting, operations which at first seemed complicated, in time become so familiar as to require no attention; the hands seem instinctively to perform the accustomed movements: but mental exercises demand attention.

It is perhaps the most difficult task of young students to gain that command of their trains of thought which scientific research requires. How many are diverted from study by the most trifling circumstances; even the appearance of a fly upon a window, an object in the street, or a slight noise in an adjoining apartment, is sufficient to call off attention: or, the mind, wearied with the unusual attempt at investigation, gladly goes in search of some more pleasing exercise of its powers. The enjoyments of home are called up; the days or weeks are counted which have intervened since the dear spot was left, and the many which are to pass until examination is over, and these tedious books may be laid aside.

But I will not attempt to imagine all the reveries in which a school-girl may indulge, even when demurely looking at her book, during the allotted time for learning her lessons. Your own consciences can say how often the ringing of the recitation bell has found you unprepared, after such unprofitable aberrations of thought. But let me urge those of you who are conscious of such injurious habits, to strive to acquire an ascendancy over yourselves, by carefully guarding the avenues of your minds. Be resolute against admitting desultory thoughts, when you need all your concentrated mental powers to bear upon the subject before you. The task will at first be difficult, but you may in time have the satisfaction of feeling that you can fix your attention, or govern your trains of thought.

6th. *Endeavor to understand as far as possible the nature, objects, and ultimate end of the studies you pursue.*

Thus, when questioned as to your progress in education, you may be able to state what you have done, what you design to do, and the bearing which all this is intended to have upon your future life. With such ideas as these fixed in your mind, you will not, when hereafter questioned as to what you did in school, have occasion to say with the young lady, who, returning from a boarding-school, and being asked what she had studied, answered, that she "could not tell without looking at her books, and they were all in her trunks."

May you, my dear pupils, have your intellectual and moral natures imbued with the instructions you are now receiving; and may the fruits of an enlarged and liberal education appear in that true elevation of character which will enable you to meet the various exigencies of life;—may you be not only intelligent and intellectual women, but good members of society, faithful and judicious in all your relations in life, and, above all, pious and consistent Christians.

LECTURE IX.

Spelling. Articulate Sounds.

From our previous remarks upon intellectual improvement, it may be inferred that a proper discipline of the mind is of still greater importance to the young, than the mere acquisition of knowledge.

The various branches of modern education have been considered under two heads:

1. *Such as seem chiefly valuable on account of their effect in strengthening and developing the mental powers.*
2. *Such as are chiefly useful for the knowledge they convey.*

In the former class are ranked mathematics and languages; in the latter, geography, history, &c.

We cannot, however, make any definite classification of the different departments of learning on these principles, since the acquisition of any one science has a beneficial effect on the mind, whose capacity for receiving increases in proportion as it receives. On the other hand, there is no science but may be highly useful in its applications.

Geography, which is considered chiefly useful for the knowledge of facts which it communicates, affords exercise for many of the faculties of the mind; the *memory* in retaining facts, the power of *comparison* when viewing different countries with their peculiarities as to physical and moral condition, of *abstraction* when a river or mountain are considered without reference to any other circumstance. Geometry, which is so highly recommended by Locke and others, for its influence in training the mind to habits of reasoning and methodical arrangement, has its practical applications to astronomy, drawing, natural philosophy, and mechanics.

With respect to the various branches of natural science, botany, chemistry, &c., it would be difficult to say whether they are most to be valued for their intrinsic utility, or for their salutary influence upon the mind. The inquiry is often made of what use can it be for a female to study botany or chemistry. Such inquiries show either an illiberal spirit, or great ignorance. Considered in reference to the mind only, these studies are of vast importance ; botany accustoms the mind to systematic arrangement, definite rules of classifications, and strict attention to the import of terms ; chemistry, by its minute analyses, gives a habit of discrimination and observation, which is of the utmost importance to all, especially to those who are about commencing the journey of life. Neither are these sciences without their important practical applications ; these will be considered when we come to treat of each individually.

I shall now proceed to the various branches of female education, endeavoring to give general views of the different sciences, their origin and history, their advantages and practical applications.

The first step in the literary education of a child, after it has learned the alphabet, is to put the *letters* together, forming the compound sounds called *syllables;* and then to unite these syllables into *words.* This process is called spelling, or *orthography*, from the Greek *orthos*, correct, and *graphia*, writing. The term orthoepy from *orthos*, correct, and *epo*, I speak, signifies correct pronunciation.

Orthography.

The habit of spelling correctly, is an acquirement so necessary that the want of it cannot be overlooked in any one who makes pretensions to an education above the lowest grade. There are, indeed, persons who, though denied the means of early improvement, have, by industry and talents, gained wealth and influence ; but such, usually feel their deficiencies with the keenest sense of mortification, and would be the first to caution young persons against neglecting their advantages.

It might seem, in addressing the members of this institution, as if it were unnecessary to dwell for a moment on the importance of a branch of education which it is the business of primary schools to teach, and which you ought to be perfected in, before your entrance into this. Yet I am sorry to say, that too many, who are ambitious of the higher walks of literature, are careless in this respect.

Owing to the defective method of teaching spelling in many primary schools, pupils often leave them with little practical knowledge of this important branch of education. The study of long columns of words, arranged without any reference to their meaning, proves not to be of much use. I have known a pupil who was distinguished as the best speller in a common school, and who seldom 'missed a word in her lesson,' scarcely able to write a letter which could be read, from the badness of its orthography. She had been accustomed to connect the letters with the sound of the words. In schools where the only method of spelling is with the voice, it is customary for the pupils in studying their lessons to move their lips, and many cannot study without doing this. In writing, the *eye* must be practised in order to detect erroneous spelling. It is for this reason that we approve of the mode of teaching spelling by *dictation*, in which the pupils write words upon a slate, or black board, after the dictation of the teacher. By carefully following this mode, you may soon correct any bad habits with regard to spelling which you have been suffered to form.

You must be aware that in your situations, bad spelling cannot be tolerated. This would not only be disgraceful to yourselves, but to the institution to which you belong. Some may feel that they are too old, and have too much to do to join the class in *dictation*, who are yet conscious that they are deficient in spelling. To such, a dictionary should be a constant companion. Yet should you after all your care, have the mortification of seeing your compositions returned from the teachers with the spelling corrected, let me recommend to you to make a memorandum of the words misspelt, with their true orthography, so that you may be sure of not committing the same error the second time.* I have known pupils acquire such an inveterate habit of misspelling certain words, that after frequent corrections, their compositions would continue to exhibit the same mistakes ; this is not only careless in the extreme, but disrespectful, showing that neither self-interest, nor a regard to her teacher, operates in the mind of one who is thus, after repeated admonition, guilty of the same fault.

There are many words of irregular orthography in our language ; thus in *receive*, *e* precedes *i*, contrary to the more common usage, as in *friend*, *believe*, &c. Some words double the final letter on taking, an additional syllable, as from *permit*, comes *permitted*, and from *omit*, *omitted*, while from *visit*, we have *visited;* the general rule in these cases is, that a word ending with a consonant, and having the last syllable accented, as *permit*, doubles the final consonant, while a word ending with a consonant, and not having the last syllable accented, does not double the final consonant.

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* In making out such a list of words, only the *correct* mode of spelling should be copied. If the false orthogaphy is set by the side of the true, the person will always be in doubt as to the right way ; for by the principle of association the one is no less readily suggested than the other.

A few rules for spelling should be written in your memorandum book; for dictionaries will not assist you in the case of many derivative words. Thus, from the primitive word *holy* come the degrees of comparison *holier, holiest;* but if the *y* at the end of a word is not preceded by a consonant, it is not changed into *i* on the addition of another syllable, as from *joy* is derived *joyful.*

Connected with the subject of spelling, is that of the *sounds and powers of letters.* With modern improvements in education, there is a neglect of some particulars which were more thoroughly attended to when so many fountains of knowledge were not open to the young student. Formerly the introduction to Webster's Spelling Book, containing in some three or four pages, rules for accent, the sounds of letters, &c., furnished matter for months of study. Although we would not wish to bring back those barren days of education, it cannot be denied that the scarcity of school books ensured a more thorough knowledge of some of the elementary branches.

I have sometimes found, to my surprise, a young lady quick to comprehend mathematical truths, who knew something of Latin, and was perhaps a proficient in French, yet puzzled to tell the difference between *accent* and *emphasis*, to give a rule for pronouncing *g* soft in *giant*, and with a hard sound in *go*, or for giving *c* the sound of *s* in *cedar* and of *k* in *cable*.

There is in the study of articulate sounds, and the powers of letters, much deep philosophy; and whoever thinks it beneath attention, little understands its importance or difficulties. It is easy to tell the difference between a *vowel* and *consonant*, a *mute* and a *semivowel;* but to understand fully the nature of articulation, we must study the various modifications which the air sent out by the lungs, is capable of, in order to produce the wonderful variety of sounds within the compass of the human voice.

Dr. Paley observes, "the lungs are to animal utterance what the bellows are to the organ; they are air vessels which become inflated and then collapsed as the air is inspired or expired." You can perceive that in respiration the chest alternately expands and contracts. This motion is caused by the action of the *lungs*, which are two spongy lobes, suspended in the chest, being connected with the *trachea*, or wind-pipe at the upper part. The air which enters the lungs is received into the minute cavities of which they are composed; these are called *air cells.* This air passes back through the windpipe, or the tube that we can feel externally, and which is composed of cartilaginous rings. The top of the windpipe is called the *larynx;* at the upper part of this, and behind the tongue, is the *glottis*, a very small opening through which the breath and voice are conveyed. It is in the passage of the air through this minute aperture that articulate sounds are formed. By means of various *muscles* or threads, which draw in different directions, the glottis is susceptible of many degrees of expansion, and it is by varying this cavity that the different vowels are sounded. The air in passing a large cavity, produces a low flat sound, through a small cavity, a high or sharp sound. This may be seen in the vowels *a*, *e*, *i*, *o*, *u*, which proceed in regular order from low and flat to high and sharp sounds.

Oral language, or speech, consists of articulate sounds; brutes utter various inarticulate sounds, expressive of their peculiar feelings. The cat when quietly reposing by the parlor fire, expresses her satisfaction by a gentle *purring;* when her capricious little mistress amuses herself by tormenting her, she vents her sorrows in piteous *mewing;* and when roused to anger by the cruelty of the dog, she *growls* her indignation. Mankind also have means of expressing violent emotions by *inarticulate* sounds, as by laughing, crying, or screaming. But it is only by *articulate* sounds and their representatives, that intercourse can be satisfactorily carried on between rational minds; these are the links which bind together our spirits—they are wings by whose means the soul is borne from its corporeal prison to unite in the interchange of thought and feeling with kindred souls.

May this gift of a bountiful Creator never be perverted by you, my dear pupils, to unworthy purposes; may your words be a true index of your hearts, pure, gentle and kind. A deceitful world may tell you that falsehood and dissimulation are necessary, but believe it not. True politeness is consistent with sincerity, or singleness of heart; and if you once lose this, and commence a system of duplicity your whole lives may become a tissue of artifice and hypocrisy. Let your hearts be pure, and you need not fear to have their true image reflected to the world. He who gave you the power of language, adapting your bodily organs in so wonderful and complicated a manner to this object, requires that you order your speech in sincerity and wisdom.

LECTURE X.

Reading.

If God had formed us for solitude, he would not have given us the wish to converse with other minds; or if, like brutes, we had been irrational, we should not have needed language. Speech peculiarly distinguishes man from the other living beings on earth.

The word language is derived from the Latin, *lingua*, tongue, and originally signified only the communication of ideas by articulate sounds. Its signification is now extended not only to the communication of ideas by writing, but we speak of the language of the passions, as expressed by various natural signs. The division which is generally made of language is into *oral** and *written*. The sciences which have an especial relation to language, considered as an instrument of conveying those thoughts, are grammar, rhetoric, logic and criticism. *Grammar* teaches us to arrange words, according to certain rules of agreement and government; *rhetoric* teaches the use of figurative language, and gives directions for attaining clearness and precision in style; *logic* teaches the method of arranging words in a certain manner, in order to establish the truth or falsehood of propositions; *criticism* teaches on what principles of the mind depend our tastes for various kinds of style, and brings to the test of those principles, the writings of various authors. All other sciences are communicated by means of language, but these have for their object language itself; or, in other words, in these sciences, language is not only the instrument with which the operation is carried on, but the object upon which it is performed.

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* From *os*, *oris*, the mouth.

Before proceeding to consider the principles on which language is founded, we will make some remarks upon reading, which is the next step to spelling, in the scale of literary knowledge; indeed modern education usually proceeds with both at the same time, not waiting for a child to be able to spell words of several syllables, before he is allowed to experience the new emotions connected with an exercise which brings the thoughts of others to him when he is alone, and opens to him a new and delightful source of enjoyment. As soon as a child knows its alphabet, it can be taught that *m y* spell my, and that *c a t* spell cat; he can then put the words together and read, *my cat*. In a short time he can be taught to read little stories composed of words of one syllable, and from this, the transition is easy to words of more than one syllable.

It is but a few years since teaching a child to read was a very different process from this. The little martyr in commencing his education, was sent to school to be confined upon a hard seat, for many long hours in the day, with only the occasional change of being called up for a few minutes to say his letters. The alphabet presented was often in a small, obscure type, and printed on bad paper. The teacher pointing to the letters, pronounced their names, requiring the child to repeat them after him. This becoming an exercise wholly mechanical, day after day passed, bringing the poor child apparently no nearer the completion of the formidable task of learning his letters. He at length became able to call one letter after another when presented in regular order; but taken separately and in any other place than the accustomed column of letters, they were perhaps, as unintelligible as Hebrew or Greek characters. I have known children of good abilities tortured for months, and even years, in this absurd and stupifying method of teaching; but when the teacher, in despair of their ever mastering their alphabet, put them upon spelling, the work was found to be accomplished; as a few exercises of this kind connected in the child's mind, the *form*, with the *sound* of the letters.

But here again the child's progress is interrupted by the mistaken idea, that before beginning to read, he must be able to spell words of several syllables. He reads "*abasement*," "*ambiguity*" and "*cotemporary*," with a mind entirely vacant of thought; indeed, he is not aware that the words have any meaning, or, indeed, any other use than to fill the columns in his spelling book. The reading lessons first presented are often dry and abstract propositions, wholly beyond the comprehension of any child, even of one whose mental powers have been properly cultivated. In the most popular spelling book* which has been in use for the last half century in our common schools, the first lessons in reading are of this nature. There are, however, in the book, some things of a different kind; and the story of the "old man who found a rude

* Webster's.

boy upon one of his trees stealing apples," is perused by the young student with great delight, for the simple reason, that he can understand it.

The method of infant school education affords a pleasing contrast to that just described. Knowledge is here made easy and pleasant: the intellectual faculties are roused by objects addressed to the senses. Pictures with their names attached are presented to the children; and in deciphering these names, they learn to consider *words* as representatives of *things*. In process of time, it is easy for them to learn that words may also be the representatives of *ideas*.

The different manner in which children read, who are taught by these two processes is apparent. A child unaccustomed to consider *written* language as the sign for things and ideas, or to read without knowledge or interest, can have no idea of emphasis or intonations. The habit of reading mechanically, once formed, is with difficulty broken, even after the development of reason and the cultivation of taste exhibit written characters as kindled by the fire of genius, or glowing with the most impassioned feeling.

To early defects in education, we must attribute the fact, that there are among us, few *good readers*. There are many requisites for good reading, besides early habits. It requires not only knowledge of language, of the derivation and signification of words, but an acquaintance with the passions of the human heart, and with the different tones in which these should be expressed. It requires also a quick conception to seize upon the meaning of a passage, so that for the moment, the author's spirit shall seem to be transferred to the breast of the reader. All this is necessary in order to read well. Is it therefore wonderful that there are so few good readers? How common is it to hear a pathetic passage read with the coldness of indifference, a lively description without animation, or an argumentative discourse without either force or emphasis.

Rules may do something, [illegible] but after all, good reading must be the effect of feeling, taste and information. You can understand, then, how, important as this attainment is, it is dependent on almost every other branch of education. By the general improvement of your minds, therefore, can you be expected to arrive at that perfection in this accomplishment, which a well-educated woman ought to exhibit.

It is not unusual for parents, in placing their daughters at school, to express the wish that they may become good readers, before they proceed to other branches of education. But reason and experience pronounce it impossible for an ignorant person to read well. Such an one may acquire the habit of calling words correctly, of minding stops and marks, and observing all the artificial rules, but the soul of reading will be wanting.—I would rather hear a person read, who did not even know that a comma was a pause of one syllable, and a semicolon two, and yet could comprehend an author's meaning and apply the tones which nature suggests, than one who has acquired a servile habit of applying arbitrary rules, without taste or feeling. Not that I would have you disregard rules, but you should remember, that as they have been suggested by nature, the sense of a passage, and not its punctuation, should guide your reading. Nothing is more common than typographical errors, by which, owing to the misplacing of a comma, or other pause, the sense of a sentence is destroyed.

You must then learn to judge for yourselves where the sense requires a pause; and as to emphasis and intonations, they must be left to your own judgment. In selecting passages to read before the school,* let me advise you never to begin with any thing you do not well understand. A knowledge of languages, particularly the Latin and French, is of great use in assisting a reader in the pronunciation of words derived from foreign sources.

This however is not an occasion for particular directions as to your improvement in reading; the instruction which you are receiving† in this branch, added to your general course of education can scarcely fail of giving you that accomplishment. Some ladies appear to think it unfeminine to read or speak in an audible manner, affecting a low and lisping tone, probably from the idea that this is an indication of a gentle and timid spirit; but I trust you have all too much taste and good sense, not to feel how false and ridiculous are such notions of female delicacy. The time has gone by, when it was necessary for a female to seem ignorant or childish in order to be interesting. Women are now looked upon as rational beings, endowed with faculties capable of improvement, and bound in duty to assume a high rank in the scale of intelligence. Even beauty has learned, that connected with ignorance and folly, she must give precedence to the plainest features irradiated with intelligence and good sense. I speak not now of a ball or a fashionable party, where external appearance forms the chief attraction, but of the great theatre of human life, where character develops itself, and where all find their own proper level; intellect and morals being the graduating scale.

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* On Wednesdays a certain number of pupils read before the whole school pieces of their own selection.

† The excellent treatise on elocution, by Porter, is made a text book for reading exercises and instructions.

I shall close this lecture by a quotation from an author,* who has done much for education, and has ever shown himself peculiarly interested in the improvement of our sex. "Elocution is not sufficiently attended to, in the course of female education. I know, great improvements have been made of late, in this respect, but much yet remains to be done. It is not enough that a young lady should be taught to read with a correct pronunciation, and emphasis, and without any palpable fault. She should be taught to enter into the feelings of the author; and to make the hearers feel as if he was really addressing them. One very striking fault in the reading of many persons is, that they do not adapt their manner to the peculiar character of the composition, but always read in one uniform style. Perhaps there are some reasons why young ladies are in danger of doing this more than the other sex; or rather, why it is more difficult, in their case to remedy this defect. Their reading is confined to the fire-side, and to the domestic circle; and there seems to be, therefore, less of inducement for them to aim at the life, and variety, and force, so essential in public speaking. Still, these, and every other good quality of the most eloquent delivery, ought to hold a high rank among female accomplishments. I cannot understand, why it should be thought, as it sometimes is, a departure from female delicacy to read in a promiscuous, social circle, if called upon to do so from any peculiar circumstances; and to read, too, as well as Garrick himself would have done, if the young lady possessed the power of doing it. Why may she not do this with as much genuine modesty, and with as much desire t oblige her friends, and with as little ostentation, as to s down, in the same circle, to the piano, and play and sin in the style of the first masters ? If to do the former i making too much of a display of her talents, why shoul not the latter be so ? Nothing but some strange freaks c fashion have made the difference. But, at any rate, ami her family and friends, to how many otherwise tedious, c useless, hours of life, may a female impart both delight an improvement by *the charm of reading well.* If a wife, sh can solace many a season of her husband's weariness c sickness. If a mother, what an advantage to her offspring to have before them, as they are growing up, a living mode in the person of one whom they are led to reverenc and love, of an accomplishment which our schools, an academies, and colleges, find it so difficult to impar This latter consideration, in my view, has immense weight for our habits of pronunciation, speaking, and reading are first formed in childhood, and in the domestic circle and being once formed, it is a task of extreme difficult to alter them."

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*Gallaudet.

It has been observed that a person may have geniu without being a good reader, but no one can be a goo reader without genius. When you find how many are th requisites for this accomplishment, you will learn not t esteem it lightly, or as a thing which may be gained i childhood, but one towards whose perfection all the dif ferent branches of knowledge tend. If you were calle upon to give a preference either to reading or music, I hope you would all prefer returning to your friends perfect ed in the former rather than the latter accomplishment; fo although music is a refined and intellectual enjoyment, the occasions for it in ordinary life, are far less frequent than for reading aloud. In all the pursuits of youth this should ever be the main object of inquiry, *What attainments will render me most useful and agreeable to others, and tend most to my own elevation and happiness?*

LECTURE XI.

Grammar.

It is not until after a child has learned to use nouns, verbs, prepositions, and other parts of speech, that he knows them as such:—in other words, he becomes familiar with language before he learns its philosophy. So it is with much of our knowledge; we are conversant with the subjects, before we understand their natures.

The mechanic becomes familiar with the use of the pulley, wedge and inclined plane, and is able to perform various operations by their aid, without knowing any thing of mechanical philosophy. We exercise our various mental faculties, we reason, remember, and compare, long before we are able to comprehend the nature of these operations.

Language was not formed according to the rules of grammar, but grammar was made to conform itself to those forms of language which had previously been established. A child learns to speak, without knowing any thing of the rules of grammar; and people ignorant of the principles and rules of language, are often able to write with tolerable accuracy. Such persons, however, feel their own deficiency in this respect; they know that they are continually liable to errors. A mariner might chance to steer his bark aright without a compass, but he would feel much more secure if provided with the means of ascertaining the correctness of his course.

Man perceiving *effects*, is led to trace them to their *causes*, though in this process he often proceeds by slow degrees. God views the first, as first; that is, causes, and the effects following them. Human nature must be satisfied to advance from the more imperfect and complex, to the more perfect and simple; for, in general, objects are first familiar to us as complex. A child can readily understand this proposition,—*the sun shines*, but it requires study and reflection to be able to analyze it into an article, a noun, and a verb; to separate these again into syllables, the syllables into letters, and then to explain the difference in the sounds and powers of these letters. The lowest human beings in the scale of knowledge, (with the exception of the deaf and dumb,) have some kind of spoken language. Many savage tribes know nothing of written language. In our country there are, however, few so ignorant as not to know how to read and write; but there are many who know nothing of grammar, or those rules and principles on which their own language is founded; and there are still fewer who comprehend those broad and general principles of grammar, which are common to all languages, and make up the science of *universal grammar*.

No person can be considered as having a liberal education, who has not studied, at least one language besides his own; and yet there are pedantic grammarians, who, with no other knowledge than that gained from the study of the English language, assume to understand the principles on which it is founded, and to be able to give rules for every doubtful case in parsing: more knowledge of the intricacies of language would teach such, that the English being composed of a mixture of other languages, on principles common to them, and yet, in many cases, essentially varying from established principles, necessarily presents many irregularities; instead, therefore, of attempting to prove all cases to be conformable to rules, we must often cut the gordian knot, by admitting a case to be anomalous, or sanctioned only by custom.

The study of different languages, then, besides affording an excellent discipline for the mind, and presenting new and rich sources of knowledge, is important in teaching the principles of our own language. But all cannot enjoy the opportunities necessary for this acquisition; many enter this institution restricted to a few months, during which it is desirable that they should make such attainments as will be most important in after life. It would be absurd for a person to attempt to lay a broad foundation, with the knowledge that he should never be able to raise a superstructure.

A young lady having merely received the rudiments of an English education, as afforded by a common school, and who is allowed only for six months or a year, the advantage of a higher school, should not be encouraged to attempt more than she can accomplish within the allotted period. The higher branches of education, and the accomplishments of music, drawing, &c., should not take the place of grammar, geography, arithmetic, and history. The natural sciences, are within the reach of every one, who can count the stamens of a flower, can see the difference between quartz and mica, or can observe the different properties of oxygen and nitrogen. In these sciences, every lecture is exhibiting nature under a new aspect, and storing the mind with facts and observations which will be useful and interesting in every station and every circumstance of life.

English grammar is now a very common study. It is almost universally taught in our common schools, and constitutes one of the earliest pursuits of students. It has its simple distinctions which can be understood by the child, but it contains subtilties which elude the grasp of the strongest and most mature intellect.

In the former and less improved state of education, a pupil commencing the study of grammar, was required to commit to memory page after page of principles, rules and exceptions: these he was required to repeat, before commencing the important process of *parsing*. In some cases, teachers continued to keep their pupils to the recitation of grammar lessons, concealing their own ignorance, by pretending that it was necessary to understand every word of their book before they could begin to make an application of its principles and rules. Other teachers there were, who really believed that this repeating by rote constituted the whole mystery of the science, and who doubted not, but in hearing their pupils recite, they were teaching grammar in the most profitable manner.

Since those days of grammatical darkness and error, books have been prepared on new principles of teaching, and the *inductive* method has been generally adopted.*

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* No elementary work has probably been of greater general utility than "*Greenleaf's Grammar Simplified.*" The teacher who is igno-

Here the pupil begins at once to distinguish a sentence into its different parts. Rules are not presented until the mind is led to perceive their application. There is, however, still a tendency to a great fault in both the teaching and learning of grammar; this is, to make *parsing* the ultimate object, instead of the *application of grammatical rules to writing and conversation.*

We do not often hear people say *I is, you am*, &c. But ladies who claim to be well educated not unfrequently say "*I will lay down*," using the word *lay*, which is the past tense of the verb *to lie*, as if it were the future. We often hear adjectives improperly used as adverbs, as "*she dances beautiful*," instead of *beautifully*. *Will* is used for *shall*, as "*I will not have time*;"—the improper use of these two auxiliaries is well illustrated in an anecdote of a foreigner, who falling into a river, piteously exclaimed, "*I will* drown, nobody *shall* help me." That foreigners should thus mistake the power of two words so analogous in many respects, is not strange; but those who study the English grammar, should apply in practice their knowledge, that *shall* used in the first person, singular, simply *foretells;* while *will*, in the same person and number, implies a *resolution* or *determination.*

It is necessary then that you should bear in mind that parsing, and learning rules, are mechanical and useless, unless you make an application of these exercises, to writing and conversation. The slightest offence against grammatical accuracy should be avoided by people of education, and yet such offences are much more common

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rant of the science, cannot but be made acquainted with it by the simple and easy manner in which parsing, or the analytical part of grammar is taught. Brown's, Ingersoll's, and Kirkham's grammars, are valuable for more advanced pupils.

than you may at first imagine. The substituting *which* for *who*, the use of the *perfect* for the *imperfect tense*, or the *imperfect* for the *pluperfect*, the improper use of the potential mode, &c. give rise to errors, which though not of the grossest kind, are yet quickly perceived by a philologist. Perhaps I have here used a term not familiar to all of you ; I will therefore observe that *philology* is derived from the Greek *phileo*, I love, and *logos*, a word, and signifies a love for, or a knowledge of words. According to the present acceptation of the term, philology implies a critical knowledge of language, considered both *rhetorically* and *grammatically*. To be a philologist, then, requires a higher effort of mind, a more enlarged view of language than to be a grammarian. But in order to be a grammarian, it is not sufficient that you can parse sentences in that kind of parrot-like manner which is acquired by those who study without much thought; you must be able to perceive the meaning of an author, the connection between the words of a sentence, however distant, and to supply words in elliptical cases. Some of the English poets are peculiar, for their great use of ellipsis, some especially, in the expression of sudden passion, leaving, not one word merely, but several, to be supplied by the reader.

A fashion too much prevails among you of considering English grammar as a study only proper for younger pupils, and some have exhibited a degree of impatience at being occasionally called upon to devote some time to the review of this science. But no young lady need fear that she has exhausted the subject of grammar, or that one hour in a week devoted to the analysis of English poetry, will not afford her an opportunity for intellectual exertion.

You may say, "If grammar requires deep thought, why are children so early put to the study of it?" We would answer, that there are simple truths in this science which children can soon comprehend, as the distinction between the parts of speech;—they can readily understand the nature of a *noun*, and this knowledge gives them many new ideas. We tell them that every *thing* in existence is a noun; all that they can see, hear, touch, smell, or taste, are nouns; at first, it may seem to them that no other words are necessary but the names of these things; but of the names of real objects how small a part of our vocabulary consists! The child soon learns that we must have words to express *actions done to*, or *done by* these *things* which we call nouns; thus his mind can readily comprehend that there may be words which do not stand for things, but relate to their manner of *acting*, or their *state of existence*, and that these words are called *verbs*. It is easy also for him to understand that these things, called nouns, have different *qualities;* as fire is *hot*, snow is *white*, one *person* is *good*, and another *bad;* and that the words denoting these qualities are called *adjectives*, which means words added to nouns. Thus you observe the young mind, by the study of grammar, is led to form an idea of *things* or *material objects*, of *actions* or *modes of existence*, and of *qualities* which do not exist, of themselves, but are inseparable from the things in which they are found. Now all this is philosophy, but it may be easily comprehended by a child old enough to understand the difference between two and four.

Thus simple are the *elements* of grammar. But the science contains divisions and subdivisions, exceptions to general rules, and exceptions differently modified; so that, as before remarked, while children can understand its elements, the philosopher is lost in the subtilties of its compounds. While employed in this study, you are giving exercise to your mental powers, invigorating them for new labors, and at the same time are gaining knowledge, which will be called into use with every sentence you speak, or write. It is very important that those who are preparing themselves for teachers, should obtain a thorough knowledge of English grammar. In correcting inaccuracies in spoken and written language, a teacher should not only be able to point out defects, but the rules which are violated.

In concluding my remarks upon a branch of education so important, and yet, through inattention and carelessness, so often pursued with little advantage, let me admonish you against that mental indolence which frequently defeats the efforts of parents and teachers. Knowledge cannot, like houses and lands, be purchased by money. All that your parents or teachers can do, is to place within your reach the instruments of acquiring it; if you refuse to use them, if your minds are not active, to observe, compare, and remember, it will be in vain that you are placed in situations where facilities for improvement are offered. Books and lectures are of no avail to that mind which is too inert to rouse itself into action, and seize the truths which are exhibited. There is in the mind a tendency to sloth; but it also contains principles which counteract this love of ease. Of these are a desire for knowledge, an ambition to excel, and in many persons, the higher, moral motive of cultivating the talents committed to their charge, from a sense of duty to God. But these incitements to action are sometimes feeble:—how often are the minds of pupils slumbering in torpid inactivity, while others are exerting all their energies to impart instruction to them;—how often is the listless eye of the pupil fixed in vacancy of thought upon some trifling object, or the mind wandering on some past pleasure, or anticipating some future enjoyment, while teachers, with intense anxiety to discharge their high responsibilities, are exerting all *their* powers to explain something which they feared might not be understood, or to communicate such knowledge as the pupil will need in her future progress in life. Would not a spectator, ignorant of the truth, suppose the teacher, and not the scholar was to be the gainer by her attention!

I have read of a certain professor, who always lectured to one particular student, regulating his discourses by his appearance: when he looked as if he did not comprehend the subject, the professor perceived that his explanation had not been clear, and endeavored to illustrate his ideas more fully; when the student's countenance was illumined with the glow of intelligence, the professor knew that he was understood, and that his instructions had taken effect. How many different expressions do I at this moment behold before me! How many youthful countenances, lighted up by the soul within, animate me in the discharge of my duties!

Would that all of you could realize the importance of this present season of preparation for your future lives. The Scriptures point out two classes of people, the wise and the foolish. Though intellectual gifts are not always most conspicuous in the most virtuous, it is generally the case that the latter more assiduously seek to make a suitable improvement of advantages afforded them. In every large collection of human beings assembled for the purpose of instruction, we are struck by contrasts; some seek to know the truth and to learn their duty; while others, alas too many! appear forgetful of the weighty interests which hang upon the present moment. Have we not reason to believe that they will, at last, be found among those to whom it will be said, "Depart from me; ye have chosen your own ways, ye have loved pleasure rather than wisdom."

LECTURE XII.

Ancient Languages.

In remarking upon the study of the ancient languages, I would wish you to understand that I do not recommend it, except where circumstances permit a liberal course of education. You will recollect the remarks on this subject in our last lecture, and will not therefore be likely to imbibe the mistaken idea, that all young ladies are called upon to become Latin and Greek scholars, or even to attempt acquiring the rudiments of any other language than their own.

It is the pride of this institution, that the daughter of the most humble mechanics and farmers, and of the wealthiest and most powerful of our citizens, here meet on terms of equality, except as virtue and talents make a distinction. Our country is probably the only one in the world which exhibits such a scene. In England the nobility would feel it a degradation to have their daughters educated in companionship with the untitled. The gentry who may not aspire to mingle with the nobility, recoil from plebian contamination. In the English universities, it is true, all may find admittance who are suitably qualified for entrance, but the sons of the nobility have their peculiar privileges. The commoners are not permitted to eat with them, and by this, and various other distinctions are constantly reminded of their own inferiority.

Unfortunate state of things, when the one class, being led to feel that rank alone can give elevation, are thus deprived of an important stimulus to mental effort, and the other, depressed by the abjectness of their situation, can scarcely hope, by the greatest efforts, to rise above the sphere in which nature has placed them!

In our country, in female as well as male institutions, these things are different. We acknowledge no hereditary claims to respect, which can set aside the superior claims of merit; and if the attempt be made to render any school in our country, of an *exclusive* character, it must, from the very genius of our government, and the nature of our institutions, prove as abortive, as it would be ridiculous.

It is indeed true that the possession of wealth often inspires parents with the desire of purchasing distinction for their children;—and, practising on this desire, there are those who engage in education, professedly for the *higher classes* only. They make such requirements as to the furnishing of pupils with expensive articles of silver plate for the table, and other costly equipments, and these are followed up by such extravagant demands for board and instruction, that none but the most wealthy can encounter the expense. Thus it is, that without any other recommendation than extravagant charges, an expensive school is sought for by some, as giving a certain *eclat* and exclusiveness to those who are rich enough to belong to it.

But how did the parents of these pupils gain their wealth? In most cases, by habits of industry and economy; but their children are taught to despise these virtues, and to consider themselves not born to patient and persevering application, not to *earn*, but to *spend* money; they learn to look with contempt upon the narrow views of their parents; while trusting in the wealth their parents have accumulated, they are puffed up with notions of their own consequence, and the deference which will be paid them when they mingle with the world. But when the heads of their indulgent, but injudicious parents shall have been laid in the dust, when their hoarded thousands shall have been spent in extravagance by their pampered children, then shall these children sink into obscurity and insignificance. Their dispised inferiors, disciplined and strengthened by habits of industry, soon get far ahead in the race of honorable competition, and thus are verified those words of holy writ, "The last shall be first, and the first last."

I have digressed from the subject of this lecture, but it has been to show you, that although a different course of study may be recommended to pupils under different circumstances, we hold to principles congenial with the spirit of our republican government.

Mankind must act according to existing circumstances and prospects. In accordance with these views, I must advise you to such studies and pursuits as now seem most likely to be useful to you in after life. And yet we well know that future prospects may be illusive. Many a piano and harp have been destined to an auction sale, while their accomplished mistress has been forced to exchange an elegant house and furniture for the coarsest accommodations. On the other hand, those who never aspired to accomplishments, the only adornment of whose minds was practical good sense, have, by an unexpected combination of circumstances been brought forward into high and conspicuous stations. But admitting the possibility of these reverses, still the present station and the pecuniary means of the parent must regulate the education of the child.

When the situation of a parent allows the opportunity of a liberal course of study, I consider that the languages should form the basis of education; that girls as well as boys should be put to the study of Latin as soon as they are able to read intelligibly.* A child of six or seven years of age can learn the conjugations of verbs, the declensions of nouns, pronouns, and adjectives. The memory at this age is active and retentive, and if the other mental powers are at the same time cultivated, there will be no danger of their suffering by the efforts of this.

The exercise of translating from one language to another, calls up the power of comparison and abstraction, quickens the imagination, matures the judgment, and gives enlarged views of the general principles of language.

In addition to the utility of the study of Latin as a discipline of the mind, we must count among one of its important advantages, the facilities which it gives for the attainment of those modern languages which are derived from it. Our own language has borrowed much from the Latin. The Saxon was the language of England when that country was subdued by the Romans under Julius Cæsar. Like all conquered nations the English gradually suffered a change in their language, and thus the language of the Romans became incorporated with that of the Saxons; and in process of time, the Danish and Norman conquests effected still greater changes.

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* I am aware that this is a controverted point; but I believe that persons engaged in education are becoming more confirmed in their opinions, in favor of giving to young females some knowledge of the ancient languages. Mr. Emerson's lecture on Female Education, delivered before the American Institute of Instruction, contains some excellent and judicious remarks on this subject.

The Latin language, like the character of the people by whom it was spoken, is forcible and majestic. Among its most distinguished prose writers were Cicero, Tacitus, Sallust, Livy, and Cæsar; its most celebrated poets were Horace, Ovid, and Virgil. This language is still used by the Roman Catholics in their public prayers, and is spoken familiarly by the learned of Europe, particularly in Germany.

An elegant writer* observes, "there is not a single language of modern Europe, in which literature has made any considerable advances, which is not directly of Roman origin, or has nor incorporated into its very structure many of the idioms and peculiarities of the ancient tongues. The English language affords strong illustration of the truth of this remark. It abounds with words and meanings drawn from classical sources. Innumerable phrases retain the symmetry of their ancient dress. Innumerable expressions have received their vivid tints from the beautiful dyes of Roman and Grecian roots."

The same writer, remarking upon the rich treasures of ancient literature, and the idea that these can be conveyed to the mind through the medium of translations, says, "*these may be read in our vernacular tongue*—aye, as one remembers the face of a dear friend, by gathering up the broken fragments of his image,—as one listens to the tale of a dream well told,—as one catches the wave of the ocean in the ripple of a rivulet,—as one sees the blaze of noon in the first glimmer of the twilight."

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* Judge Story.

It is not however to be expected that among the many pursuits to which the female mind must be directed, and with the short period which is allowed them for education, that many young ladies will acquire that facility in reading Latin which is necessary to the enjoyment of its classical literature. But a knowledge of the principles on which this noble language is constructed, and a limited acquaintance with its beauties are invaluable.

Why should these be denied to us merely because we are women? I know it has been customary among many to ridicule the idea of females pursuing what are called *masculine studies*. The excellent and wise Hannah More was so intimidated by this, that in her Cœlebs she makes her heroine dread the discovery of her studying Latin, as if it were a crime, and overwhelms her with blushes and confusion when the secret is revealed.

When such occurrences shall no longer be rare, then will they cease to excite astonishment, and females may be allowed to read Virgil, or even Homer, with as little cause for blushes, as if they were working lace, or embroidering muslin.

In some essays on female education ascribed to her ladyship, the Countess of Carlisle, I find the following remarks; "As for Homer and Virgil, I fancy you must be content to taste these as pure as the labors of the learned afford them; the Greek and Latin tongues *forming* no part in the polite system of female education at present, nor certainly *ever can* in the useful." It is probable that had her ladyship been permitted to test the *utility* of these studies by experience, she might have judged differently; she would probably have gained from them a better knowledge of the construction of English sentences than is exhibited in the preceding quotation, some parts of which it would certainly puzzle a grammarian to parse according to any rules of the English grammar. It is a little surprising that she should have decided so positively on this subject, especially as she had observed in a preceding sentence, that "it is a property of ignorance to esteem nothing valuable that it does not comprehend."

Before dismissing the subject of the Latin language, it may be profitable to those of you, who have recently commenced in this study, to receive a few *general directions* for translating and parsing.[*]

Simple rules for translating Latin into English.

1. Find what is the *nominative case* or subject of the verb.
2. Find the words which belong to the noun or subject of the sentence; these words are sometimes adjectives, which in English are usually placed before the noun; but in Latin are often placed after, and sometimes separated by many intervening words from the noun to which they belong. It is the agreement of adjectives to their nouns, in number, gender, and case, which enables us to ascertain to which of the nouns in a sentence they belong. It may be observed, as there are no words in Latin which answer to our articles *a* and *the*, in translating we add these articles according to our understanding of the sense:

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[*] Cleveland's First Lessons in the Latin Grammar is an excellent work for beginners; after his, the Liber Primus or Latin Reader may follow. The custom of commencing the reading of Latin with the poets, is not recommended.

thus, the word *rex* may be read either *a* king or *the* king. This want of the article in Latin is considered a defect, as it often makes the sense appear doubtful.

3. Besides the adjectives which are connected with the noun, there may be also a noun *in the genitive case*, which, depending on the former noun, should be construed immediately after it.

4. A *participle* may belong to a noun, and require to be construed before the verb.

5. The *verb* is a very important word in a sentence. When a noun is translated, the verb to which it is subject naturally becomes a subject of thought; and although we often bring in many other words before the verb, it will be more easy to arrange those words in proper order, when we know what the verb is; therefore, as a general rule, it is best to ascertain immediately after translating the noun, to what verb it is nominative.

6. If the *verb is active*, it will naturally be followed by a noun in the accusative case, but this noun may not be placed directly after the verb as in English, but if the sentence be long, the accusative case may be at some distance from the verb.

7. After a preposition, it is necessary to look for a noun either in the accusative or ablative case.

8. As the Latin language is very concise and elliptical, there are often many words to be supplied in order to complete the sense when translated into English.

The rules I have now given for translating may be easily remembered, because they are few and very general. I will trespass on your patience by adding a few directions for *parsing* Latin.

Simple rules for parsing Latin.

1. You know that Rule 1. (Adams' Latin Grammar,) teaches that the adjective must agree with its substantive in several particulars, as case, number and gender. In order to ascertain these particulars, you must find to what declension the adjective belongs; then by declining it according to the rule for the declension of adjectives, (which you can find by referring to your grammars, if it is not in your memories,) you will come to the termination similar to the word before you; thus you will be able to tell the case, number and gender of your adjective. And as for the noun to which it belongs, when you find one of the same case, number and gender, you may safely conclude they go together.

2. When you parse a noun, you must first find of what declension it is; then you may, by varying it according to that declension, ascer-

tain its number and case. The gender will depend in some degree upon the declension to which the noun belongs; for instance those of the first declension, are feminine; those of the second declension which end in *us*, are masculine: those which end in *um* are neuter. There are a few exceptions to these general rules, but in learning any science it is best to get clear ideas of the general rules, and learn the exceptions afterwards, for it is usually the case that in attempting to learn every thing at once, the ideas become confused, and nothing is clearly understood.

3. If the noun which you are parsing be in the nominative case, you must find the verb it governs; if it be in the genitive, it will most generally be governed by some other noun; if it be in the dative it will be governed by some adjective or verb; if in the accusative, it will be governed by an active verb or preposition, or placed before the infinitive mode; if in the vocative, it will stand unconnected with other words, or have an interjection joined with it; if in the ablative, it will be governed by a preposition, depend on circumstances of time, manner, &c., or be connected with a participle.

You are not to expect in this sketch all the important rules for parsing; you are here merely shown a manner of generalizing; each one should, however, follow that mode of condensing rules and principles which most accords with the laws and operations of her own mind. This process should be performed in every study you pursue: when you have done this, and not till then, you may consider that the knowledge communicated to you has become truly your own.

In the study of the Latin or any other language, you may feel encouraged by the consideration that every step you advance is rendering the next more easy, and especially by the thought that when your mind has once acquired a knowledge of the general principles of language, you will find the acquisition of new tongues can be made with great facility. After learning one foreign language you can probably learn two more with less labor. In possession of three languages, you could probably acquire six in less time *than the first*—and so on in a compound ratio. This may seem extravagant, but the testimony of those who have been distinguished for their extensive acquaintance with languages goes to confirm the opinion.

We will now dismiss the Latin, and hasten to complete our view of the dead languages with a few remarks upon the study of Greek and Hebrew.

The elements of the Greek language are by no means as difficult of attainment as is generally believed. The alphabet may be learned in a few hours, and after studying a pronoun, a verb, and a noun, the pupil can commence the translation of such simple sentences as contain words analogous to those whose declension and conjugation have been studied.* Other nouns, verbs, &c. can then be studied, and application be made as before. In this way, even a few weeks of study of the Greek language may prove of great advantage.

To be a Greek scholar, requires more time and labor than females, in general, can give from their other pursuits; and should some proceed so far in the study as to perceive the difficulties still to be surmounted, a sense of their own comparative ignorance should tend to render them humble and unpretending, rather than confident and pedantic.

This harmonious and beautiful language is that of Aristotle, Pindar, Homer, and many other sublime writers, whose works contain the germs of most of the sciences and discoveries upon which the moderns have so much prided themselves.

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* A small work recently published by Professor Goodrich, entitled, "Lessons in Greek Parsing," conducts the pupil in this easy and agreeable manner through the elements of the language. The author, in having rendered access to this beautiful language thus easy, deserves more from the public than many a ponderous writer of unread quartos.

"It was Homer," says an energetic writer,* "who gave laws to the artist; it was Homer, who thundered in the senate; and more than all, it was Homer who was sung by the people; and hence a nation was cast into the mould of one mighty mind, and the land of the Iliad became the region of taste, the birth-place of the arts. Nor was this influence confined within the limits of Greece. Long after the sceptre of empire had passed westward, genius still held her courts on the banks of Ilissus, and from the country of Homer gave laws to the world. The light, which the blind old man of Scio had kindled in Greece, shed its radiance over Italy, and thus did he awaken a second nation to intellectual existence. And we may form some idea of the power which this one work has to the present day exerted over the mind of man, by remarking, that nation after nation, and century after century, has been able to do little more than transpose his incidents, new name his characters, and paraphrase his sentiments."

The language of Homer, with the fortunes of Greece, has undergone an essential change, and is modified with the intermixture of the Turkish and some other modern languages. The modern Greek, though highly melodious, is far less distinguished for sublimity than the ancient.

Many of our scientific terms are derived from the Greek. In botany, the names of the classes and orders of plants may be traced to this source; as *monodelphia*, from *monos*, one, and *adelphia*, brotherhood. In chemistry, we have the word *oxygen*, from *oxus*, acid, and *gennao*, to produce. Many words, not considered technical, are of Greek origin, as athletic,* gymnastic,† theatre,‡ &c.; *theology*, from *theos* God, and *logos*, a word or discourse, signifying the science which treats of God: *physics*, from *phisis*, material nature, and *metapyhsics*, signifying the study of what is above or beyond matter.

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* President Wayland.

Those of you, who have merely learned enough of the Greek language to trace the derivation of words, may consider that you have gained a key to an important branch of knowledge; by means of which your own language will appear in a new and interesting light.

The Greek language is that in which the New Testament was written. To be able to read this holy volume in the original, is a very important attainment, and on account of the simplicity of the style, less difficult than is generally imagined. To an English lady,§ literature is is indebted for an excellent translation of Epictetus, one of the Grecian moral poets.

The Hebrew is the language of the ancient Israelites, and that in which the Old Testament was written. It is supposed to be the most ancient language now known. The Jews still make use of it in their synagogues. A knowledge of the Hebrew is highly important for ministers of the gospel, in order that they may understand the scriptures of the Old Testament in their original strength and beauty. Few ladies attempt this study. Its connection with our own language, or with science is but slight.

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* From the Greek *athletis*, a wrestler.

† From *gymnasium*, a place where athletic exercises were performed.

‡ From *theatron*, a place where shows were exhibited.

§ Mrs. Elizabeth Carter.

The alchymists, however, had borrowed many terms from this language, and these words along with the fragments of the science have become incorporated with chemistry.

For the encouragement of those who may desire to become acquainted with languages, I will mention the acquisitions of a young lady with whose biography I hope many of you are already familiar; I mean Elizabeth Smith, of England, who died, in early youth, at the commencement of the present century.—Her biographer observes that she early showed a great desire for instruction, and devoted that time which is often spent in trifling amusements to the acquisition of knowledge. Under adverse circumstances of fortune, which allowed her few advantages, she early learned the Spanish and Italian languages, and became familiar with geometry. After this, she acquired the German, Latin, Greek, and Hebrew languages, and made considerable progress in the Arabian and Persian. She was, says her biographer, "a very fine musician, and those ladies who devote almost their whole time to this single accomplishment, may feel astonished that one of their own sex should have been able to unite with it such proficiency in abstruse sciences. She was at the same time remarkable for attention to domestic employments, and for her delicate taste in dress, displaying as much skill in making a gown or cap as in explaining a problem in Euclid or a difficult passage in Hebrew." Of her Hebrew translations one of the most learned scholars of Europe observes, "This work strikes me as conveying more of the true character and meaning of the Hebrew than any other translation that we possess." This character, so perfect in intellect, so pure and amiable in morals, posessed also that crowning ornament, without which, as a whole, it would have been imperfect—piety. She was called to an early grave; but the embalming spirit of religion had anointed her body for burial, and preserving in all their loveliness the beautiful lineaments of her mind, prepared it for a high station among those pure and holy intelligences, who differ in degrees of knowledge and happiness, as "one star differeth from another star in glory."

LECTURE XIII.

Modern Languages.

Some of the modern tongues, especially the French, Italian and Spanish, are generally admitted to be desirable accomplishments for young ladies. Facilities for acquiring these are, however, less frequent than for learning Latin and Greek. I refer here to those cases in which girls are educated at home, during the first twelve or fourteen years.

People who reside in country towns, unless in the vicinity of literary institutions, seldom have an opportunity of learning the modern tongues from well qualified teachers, as such can find more eligible situations in populous places. But there are few places where a person might not be found competent to teach the dead languages. The clergyman, lawyer or doctor of the parish would probably be willing to devote a small portion of time to a review of classical studies, or a young lady's father or brother may be able to assist her in acquiring the elements of the dead languages. A pupil thus prepared to commence French, or any other modern language, may be expected to make rapid progress.

There are English teachers of the French, who by long practice have acquired a tolerably correct pronunciation; but, in general, it is preferable to commence this language under a native teacher. The Spanish pronunciation, being much more easy to an English tongue, may be better taught by an English teacher than the French or Italian. The Italian is less difficult than the French.

Books which attempt to give the sounds of French words by combinations of English letters, always mislead a student. For example, in a work professing to be a guide to French pronunciation, I find a direction to pronounce the word *brouillard*, a storm, thus, "*broolar*;" the *l* being marked as silent, the pronunciation would be *broo-ar*. Those who are accustomed to the peculiar changes of some of the organs of speech in the pronunciation of the French liquid sounds, will at once perceive the impossibility of expressing the same by any combination of English sounds. I might add many other examples equally tending to show that the French, as a spoken language, must be learned orally. Those who have not the advantages of acquiring the French accent, may, even without a teacher, learn to translate the language. While no other tongue is so difficult to pronounce as the French, no other is so easily translated into English.

At the present time, the French is more generally spoken than any language in the world. It is a medium of communication common to the polite, as the Latin is to the learned. It is the language in which the diplomatic correspondence of the different courts of Europe is usually carried on. It is a familiar sound in the streets of St. Petersburg, Rome, Madrid, London, and New-York. The educated South American speaks French almost like a Parisian; and few of the inhabitants of the West Indian islands are ignorant of the language. In many parts of Canada and Louisiana it is the prevailing tongue.

You see then how valuable must be a language so extensive in its use; and opportunities of acquiring it in its native elegance of pronunciation, should be prized and improved.

The French literature is rich and diversified. It is not, however, to be expected that all who study this language will become so familiar with it as to be able to speak, or even to read it with fluency; but it should be accounted no useless attainment to be able to translate the occasional French sentences which you will meet with in the course of your English reading. At the present day, scarcely a new publication appears, which does not contain more or less French words, or sentences. They are also much introduced into conversation; and we are constantly hearing people, (and among these, some who know nothing of the language except as they provide themselves for particular occasions,) expressing themselves after the French idioms, and in French phrases.

Many of the French words which may be considered as adopted into our own language are still pronounced with their original French sounds, as *debut*, *depot*, *eclat*, &c. It would appear ludicrous to a polite ear to hear these words pronounced according to the analogies of the English.

A sketch of the history of the French language, with some remarks upon its literature may not be useless or uninteresting to you. The French language, is comparatively of modern origin. France was anciently called *Gaul*, or Gallia. The first inhabitants of this country mentioned in history were the Celts. Some vestiges of their language are said to appear in the dialect of the peasants of Brittany in France, called the Armoric. When Gaul was conquered by the Romans under Julius Cæsar, the Latin was introduced, as it was into England about the same time. The language of the Franks and other savage tribes gradually became incorporated with that of the Gauls and the Romans: and the whole formed a corrupt dialect which was called the ***Romance***, or ***Roman rustic***;[*] because spoken by the peasantry, who had mixed their own language with Latin words and idioms. This dialect was divided into two branches, which received their names from the respective modes of pronouncing the terms for the affirmative *yes*. In the southern part of

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[*] The following is a specimen of the old romance, or Roman rustic, as exhibited in Morland's history of the churches of the valleys of Piedmont.

"Car la plus fort arma dura que lo Diavol aya son las fennas, laqual cosa es demonstra, car lo Diavol eslegic la fenna a decebre lo premier home. Et Balaam acer eslegic aquestas a degittar lo filli d' Israel."

"Now the strongest arms the Devil hath are women, which thing is shown in that the Devil made choice of the woman to deceive the first man by. And Balaam made choice of them to reject the children of Israel."

France, this was expressed by *Oc*, and their dialect was called, *langue d' Oc* (the language of *Oc*) or Occitanic dialect. North of the Loire, where *yes* was expressed by *oui*, the language was called *langue d' Oui*; from the latter was derived the modern French. In the 12th century the south of France was united under one government called Provence, and the *langue d' Oc* then took the name of Provençal.* At this time the Northern dialect assumed the name of French. The accent of the people in the South of France, at this time, differs considerably from that of the Parisian.

It was about this perid that the Troubadours, or wandering minstrels, gave to the French people a taste for poetry and romance. The Crusades had served to foster the most extravagant passions, and had given rise to the most romantic incidents. The human mind glowing with new and tender images, and luxuriating in the unrestrained freedom of those lawless days, exhibited a strange mixture of wildness and refinement. This was a period peculiar to itself, and one which has furnished modern fiction with its choicest materials. The very term of Chivalry, or the name of knight or troubadour, seems to call up the spirit of curiosity, and give interest to a tale or song.†

The song of the Troubadour was heard with equal delight in the castle and in the cottage, by courtly dames and humble peasants. None of the productions of those poets are now celebrated in literature.

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* The mark under the *c*, in the word Provençal, is the French cedilla, which denotes that *c* has the sound of *s*.

† Mrs. Hemans' popular song of
"The knight look'd down from the Paynim's Tower,"
is thus most happily chosen for effect.

), Francis I., called the *Father of letters*, estab-
fessorship of the French language, and forbade
he Latin in public documents and judicial pro-
During his reign the language was greatly
ind literary men received the most munificent
ent. Clement Marot, a poet of those days, is
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nation.

was published the dictionary of the Academy,
nued to be the standard of the French lan-
the revolution of 1789; since which time,

at tender eye, my little friend,
leep shall come, that cometh not to me!
to see thee, nourish thee, defend—
weet to watch for thee—alone for thee.

s fall down; sleep sits upon his brow;
e is closed: he sleeps—how still and calm!
t his cheek the apple's ruddy glow,
I you not say he slept on death's cold arm?

my boy!—I tremble with affright!
e, and chase this fatal thought!—unclose
e but for one moment on the light!
at the price of thine give me repose!

rror!—he but slept—I breathe again—
gentle dreams, the hour of sleep beguile!
en shall be, for whom I sigh in vain,
the watch to see that waking smile?"

nslation and some facts relating to French [illegible]
ublished in the North American Review.

Clotilde de Surville.

The fifteenth century produced a poet of great taste and sweetness, Charles d'Orleans, father of Louis XII., and uncle of Francis I. He composed most of his poetry while imprisoned in England, whither he was carried after having been captured at the battle of Agincourt. Cotemporary with this poet, was Clotilde de Surville, many of whose thoughts are strikingly beautiful, and whose style is highly polished for the time in which she wrote.*

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* It may not be uninteresting to the pupil in French to note the peculiar orthography of that remote period, while all may delight in those sweet and touching expressions of maternal love of this female writer of the fifteenth century.

VERSLETS A MON PREMIER NE.

"O cher enfantelet, vray pourtraict de tou pere,
Dors sur le seyn que ta bousche a pressé !
Dors, petiot ; cloz, amy, sur le seyn de ta mere,
Tien Doulx oeillet par le somme oppressé.

"Bel amy, cher petiot, que ta pupille tendré,
Gousté ung sommeil qui plus n'est faict pour moy !
Je veille pour te veoir, te nourrir, te défendre—
Ainz qu'il m'est doulx ne veiller que pour toy !

"Estend ses brasselets ; s'espand sur lui le somme:
Se clost son œil : plus ne bouge—il s'endort—
N'estoit ce tayn floury des couleurs de la pomme,
Ne le diriez dans les bras de la mort ?

"Arreste, cher enfant !—j'en frémy toute engtiere !
Réveille-toy ! chasse ung fatal propoz !
Mon fils !—pour ung moment—ah ! revoy la lumicre ?
Au prix du tien rends-moy tout mon repoz !

"Doulce erreur ! il dormoit—c'est assez—Je respire ;
Songes légiers, flattez son doulx sommeil !
Ah ! quand voyray cestuy pour qui mon coeur souspire ;
Aux miens costez, jouir de son réveil ?"

LINES TO MY FIRST BORN.

"Sweet babe ! true portrait of thy father's face,
Sleep on the bosom that thy lips have prest !
Sleep, little one ; and closely, gently place
Thy drowsy eyelids on thy mother's breast.

In 1539, Francis I., called the *Father of letters*, established a professorship of the French language, and forbade the use of the Latin in public documents and judicial proceedings. During his reign the language was greatly improved, and literary men received the most munificent encouragement. Clement Marot, a poet of those days, is said to have used every effort to reform the barbarities of his language, and to introduce refined and elegant expressions. He acknowledged that to the conversation of polished females he was indebted for the improvements which he introduced.

In 1635, the *Acadamie Française*, consisting of forty members, was established by Cardinal Richelieu. To this body was consigned the care of the language and literature of the nation.

In 1694 was published the dictionary of the Academy, which continued to be the standard of the French language until the revolution of 1789; since which time,

" Upon that tender eye, my little friend,
Soft sleep shall come, that cometh not to me!
I watch to see thee, nourish thee, defend—
'Tis sweet to watch for thee—alone for thee.

" His arms fall down; sleep sits upon his brow;
His eye is closed: he sleeps—how still and calm!
Wore not his cheek the apple's ruddy glow,
Would you not say he slept on death's cold arm?

" Awake, my boy!—I tremble with affright!
Awake, and chase this fatal thought!—unclose
Thine eye but for one moment on the light!
Even at the price of thine give me repose!

" Sweet error!—he but slept—I breathe again—
Come gentle dreams, the hour of sleep beguile!
Oh! when shall he, for whom I sigh in vain,
Beside me watch to see that waking smile?"

For this translation and some facts relating to French literature, the author is indebted to the North American Review.

new words and phrases, corresponding to a new state of things, have gradually been introduced.

To Malsherbes, a man of great genius and learning, whose labors preceded the reign of Louis XIV. is ascribed the honor of having rescued the French language more effectually from foreign idioms than any other writer had done. So peremptorily did he insist on this point, that he was called the "*Tyrant of words and syllables*;" and it is said, that when in the hour of death his confessor was expatiating on the joys of heaven, he begged him not to speak on such a subject in language so vulgar and inaccurate.

The reign of Louis XIV. is considered as the Augustan age of French literature. Montaigne at this period complained of the fluctuating character of his language, and endeavored to give it energy and stability. Corneille, Moliere, Racine, and Voltaire successively occupied the public with their dramatic writings. Fenelon, the amiable and pious author of Telemachus, distinguished himself for several valuable and interesting works. Rousseau rendered himself famous for talents, and infamous for the abuse of them. Condillac was an able metaphysical writer of a later period. Although professing himself a disciple of Locke, he seems to have misconceived the opinions of that writer in some important points, especially with regard to *sensations;* these Locke considered to be the *moving cause* of certain mental operations, which, being *independent* of matter, were therefore entirely different from *sensations.* He termed them ideas of *reflection.* Condillac erroneously supposed the language of Locke to be, that all our mental operations were *sensations*, and the *shadows* of *sensations.*

Mr. Locke's "*ideas of reflection*" were called, in the system of Condillac, *sensations.* Mr. Locke termed *feelings*, or *reflections*, the mind looking in upon itself; while Condillac probably understood him to mean the *reflected images* of sensations. But although we admit that sensation seems to awaken in the mind the germ of thought, we cannot consider our intellectual states of mind or our emotions merely as sensations under a new form.

Among the later female writers in the French language, are Madame de Genlis, distinguished for the number of her works, (amounting to more than one hundred volumes,) Madame de Staël, a woman of a powerful and masculine intellect, and Madame de Sevigny, whose letters are considered as patterns of epistolary writing. I would also mention Madame Campan, whose ideas on female education were more just and solid than most of her cotemporaries.*

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* A work by *Madame, La Comtesse De Ramusat*, entited "*Essai sur L'Education des Femmes,*" contains excellent views of the actual condition of women, and suggestions for their improvement. It was revised and published by her son, after her death. In his preface is exhibited a manly and enlightened spirit, combined with deep filial affection, and deference for the opinions and motives of his mother. He says, "My mother believed there was a necessity for a reform in female education; she thought she perceived what was wanting to render women more happy, more useful and respectable than they could be, while their spirits were confined by those prejudices and customs which are behind the spirit of the age. She wished to spare the young from the onerous heritage of those prejudices. Besides, she considered that education does not profit the future only, but that *parents themselves, may be greatly benefited by the lessons they give their children.* Impressed with these ideas, my mother gave herself, with all the ardor of her mind, to the investigation of a subject so important and comprehensive. She recalled her own history, she interrogated her experience, she sought the counsels of others; her meditations, her reading, and her conversation were all directed to this point. Every day she gained new light, and made new observations upon the subject, and every day its utility and importance appeared to increase. To borrow an idea and mode of expression which is often to

We are not now speaking of living writers in the French language, or we should not omit the names of Mesdames Necker, De Saussure, Bellac, and Mademoiselle Montgolfier, with others, who are now doing honor to their sex, and promoting the true interests of education and literature. The works of Madame Guizot furnish excellent reading for the young, and for all who wish for sound and practical views of education.

We have already devoted more time to the consideration of languages than was at first intended, and must omit enlarging upon the Spanish and Italian literature. These are much less extensive than the French; yet these languages possess claims to the attention of the student who has leisure and opportunity for acquiring them. The Spanish excels in dignity, the Italian in sweetness. From their analogy both with the French and Latin, a knowledge of those languages may be easily obtained by one who understands either of the two latter.

With this lecture will close our view of languages, to which the branches of study we have hitherto given our attention, have all a relation. Several of the first lectures of our course were preliminary considerations on the subject of education in general. In commencing with the individual branches, we considered the process of combining articulate sounds in a manner to form words, the importance of a knowledge of orthography, and pointed out some methods for correcting bad habits of spelling.

be met with in her work, she at length came to consider her labors in this cause as one of the great '*duties of her mission.*'

' In publishing her works, I believe myself promoting the cause of truth, and honoring the memory of my mother, the two objects dearest to my heart."

It is gratifying to find the memory of such a woman, thus honored by such a son.

Secondly, we remarked upon the process of learning to read, the requisites for the good reader, a peculiar importance of this qualification to our own sex, and some of the defects most common in this department of education.

Thirdly, we remarked upon that science which gives rules for the construction of sentences, and by means of which language receives its character and permanency. That mode of speech which has no grammatical standard, can be considered only as a kind of savage dialect. As a people become civilized, they naturally fix the boundaries and idioms of their language.

Fourthly, from the consideration of grammar, or the study of our own language, we proceeded to consider the use of the Latin, as a branch of female education. On account of its utility in giving correct ideas of our own and other modern tongues, and especially its important aid to mental discipline, it was recommended to those who can have the advantages of a liberal course of study. Our views of ancient languages closed with some brief remarks upon the Greek and Hebrew.

Fifthly, we considered the study of modern languages, devoting our attention chiefly to that of the French, which, on account of the greater extent to which it is spoken and the superior richness of its literature, demands the greatest attention.

We are now to commence with a different department of education, to begin a review of certain other branches of study, which, like those we have already examined, have an intimate relation to each other. Several of our next lectures will be devoted to modern and ancient geography, modern and ancient history, and mythology, between all of which there is a connection more or less intimate. In these studies, although language ceases to be the immediate subject of our inquiry, we are still dependent upon it as a medium of communication.

We are now to consider the earth, with respect to its general and particular divisions; its features both of land and water; the races and nations of human beings who have dwelt upon its surface, with its various revolutions, civil, political and moral. As we ascend into antiquity, our lights become dim and uncertain, and carry us into the fabulous regions of mythology. Most of the ancient divinities are supposed to be distinguished persons, who, for their good or evil deeds, were immortalized by becoming objects of worship; the favor of some being implored, while the wrath of others was deprecated.

LECTURE XIV.

Modern Geography. Ancient Geography.

In pursuing the course at first marked out for our lectures on education, I find the subject of intellectual improvement expanding so much before me, that it will be necessary to pass over in a more cursory manner than might be wished, the various branches of education which occupy the attention of the individual members of an institution, including pupils differing widely from each other in age and literary acquirements.

On account of this diversity, I sometimes feel an embarrassment respecting the style in which you should be addressed, and the kind of information most proper to be communicated; for, in endeavoring to accommodate myself to the capacities of the more advanced pupils, there is danger that the younger may be uninterested and uninstructed; while on the other hand, to address myself generally to the younger, and less understanding class of pupils, would be to discourage those for whose improvement these lectures are particularly intended.

But it is not useless for the advanced pupil occasionally to look back to the elements of sciences which have become familiar, and to take general views of what has been passed in detail. When laboring to reach the summit of one of our fine hills, you were as sensible of the actual appearances, and especially of the relative situations of the various streets and buildings which you passed, as when you could look down from a commanding height on those objects; you then enjoyed the scenery as a whole, and saw the separate objects combining to form one beautiful scene. So it is in science, each separate principle or fact at first engages the attention, one difficulty arises as another is conquered, until the mind, pausing in the ascent, looks down on the prospect beneath. It is thus that it becomes invigorated for new toils.

If younger pupils shall sometimes hear subjects discussed which they do not comprehend, it may serve to quicken their dilligence to attain knowledge which they perceive to be familiar to others. It is well, too, for them that their curiosity should be excited—well for them to perceive the many paths of knowledge which lie before them, and in exploring which, although there is labor, there is also an ample reward.

It was my intention to have given a sketch of the history, uses and applications of all the different branches of female education; but, as before remarked, in order that the literary department of our course shall not occupy a much greater space than its relative importance demands, it will be necessary to be more general than may be interesting to you, or satisfactory to myself. I said the *relative importance*, for in comparison to the moral and religious improvement of the youthful mind, literary attainments dwindle into insignificance.*

We will now proceed to notice the science of geography. On the importance of this study it is unnecessary to dwell, since it is usually a favorite pursuit with most young persons, and in most schools receives a large share of attention.

Great improvements within a few years have been made in the methods of teaching geography, and in the books used for that purpose. Twenty years since, the best works used were those of Dwight, Morse and Guthrie. Dwight's geography was in the form of question and answer; it was unaccompanied by an atlas or maps of any kind. Morse's first work, though superior to Dwight's, contained no attempt at classifying facts in a philosophical

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* It was the intention of the author when preparing these lectures for the press, to have included in one volume the different departments of education, as well as lectures on the duties of educated women in their various relations; but the literary department seemed to embrace too many subjects to be examined within the space at first alloted to it. The more important subjects which remain, the author proposes to include in a second volume.

nanner; a pupil might study it diligently for months, and
et, for want of a connecting principle, the knowledge ac-
uired would neither be useful or permanent. Guthrie's
eography was a voluminous work, containing a great
nass of matter, but equally unphilosophical in its arrange-
nent as other cotemporaneous works.

For some time after geographies were accompanied
rith maps, no other attempt was made to teach the draw-
ig of them, than in a laborious and unprofitable manner,
hich occupied weeks, and even months, with little other
lvantage than that of giving to the pupil neatness of exe-
ition. This method consisted of delineating maps upon
aper, and coloring and printing them. These maps had
very pretty appearance, but, as they were often drawn
y tracing on paper laid over the original; the mind of the
upil was usually too intent on the mechanical perform-
nce to think of the relative situation of places. A young
idy, after spending three months at a boarding school,
nd having drawn and painted a map, was, of course, con-
dered as well versed in geography, though in truth she
iight be almost as ignorant of the science as if the same
me had been spent in drawing patterns for embroidery.

The system of teaching geography, as published by
Irs. Willard and Mr. Woodbridge, in their series of geo-
raphical works,* was introduced by the former into her

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* Some years before the publication of these books, Mrs. Willard
ommunicated to me her intention of preparing a geography on a new
an. She remarked that on the method then in use the principles of
eneralization seemed to be left out of the question; that instead of
king up each country singly, giving an account of its civilization,
anufactures, state of education, religions, &c., these subjects should
treated of under separate heads, and thus comparison and generali-
ition be made to aid the memory, while at the same time this method
arrangement would prove a useful discipline to those mental powers
hich were by its means called into operation. Mrs. W. remarked,

school in Middlebury, Vermont, about the year 1816. She had no books which contained her plan, and taught her pupils from her own manuscripts. She made great use of maps in every recitation. The exercise of the pupil in drawing maps upon the black-board is an improvement of still later date. You can all bear witness that this is a most effectual method of imprinting on the mind the contiguity and relative situations of countries. Another great improvement in teaching this science is that the pupil now commences with his own town and country, and proceeds from thence to distant places.

It now seems absurd to give for a child's first lesson in geography, a description of the solar system; for the next, a mathematical account of the divisions of the earth, and then to transport him to Africa, Europe, and Asia, before he is taught any thing of his own country. In the "Geography for Beginners," the teacher is directed to present the child with a map of his own town, to direct his attention to the river before his own door, to the mountains which are in sight, and the towns which bound his own native place.*

The word geography is taken from the Greek *ge*, the earth, and *grapho*, to delineate; but its primitive signification of a delineation of the earth has been gradually ex-

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that a work on such a plan would cause a new era in teaching the science of geography. I considered this at the time a bold assertion; but the general adoption of this method, the distinctive features of which are more fully developed in the Universal Geography so admirably executed by Mr. Woodbridge, establish its truth.

* By teaching pupils in this simple manner, an instructor would have no cause to fear those blunders which are sometimes made by pupils when taught definitions before they are made to understand facts. A teacher who had faithfully labored to prepare a class for examination, asked a young Miss who stood at the head, "*What is Geography?*" The pupil, much to the entertainment of the audience and chagrin of her instructor, promptly and audibly answered, "*Geography is a large ball, or globe.*"

tended, so that now, geography includes a description of climates, soil and productions, and even of the moral and intellectual character of mankind.

The science of geography is intimately connected with astronomy ; Even our knowledge of the figure of the earth s derived from observing its shadow upon the moon, when in eclipse. An eclipse, as you well know, is caused by the shadow of the earth falling upon the moon ; this shadow being always bounded by a *circular* line, proves that the body which caused it is round. In the early ages of mankind the earth was supposed to be a flat surface, terminated by an immeasurable gulf. Each barbarous nation supposed itself in the centre of this great plain. Some supposed that the earth rested upon the back of an enormous elephant, and that the elephant rested upon a huge tortoise ; but here arose a greater difficulty than the first, since the whole was then to be supported by some new monster. You perceive how ridiculous are such hypotheses ; but they are not more so than a thousand others which were received by mankind in their primitive state.

By astronomy we learn the existence of what is called the *Solar System*, having for its centre the sun, around which revolve several worlds or planets : the earth we inhabit being the third in order from the sun, and travelling in a path called its *orbit*, around this great luminary, once, in a period of time, which we call a *year*. This journey causes summer and winter; for when the earth is in that part of its orbit where the sun shines directly upon it, we have summer, and when in that part where the sun's rays fall obliquely we have winter. Our days are longer in summer, and shorter in winter, from our change of situation with respect to the sun.

Although it is the real motion of the earth around the sun which causes the changes in their relative situations, yet to us, the sun is *apparently* approaching to, and receding from the earth. In March and September, the sun appears to be at the equator, and the days and nights are equal in all parts of the world.* After the 20th of March, the sun appears to advance towards us, and in June it appears at the tropic of Cancer, which is its northern boundary; after this it turns back and pursues its course towards the southern tropic, which it reaches in six months.

We learn by astronomy that the planets, and our earth among the number, turn, as if upon an axis, once in a given period of time. The earth turns completely round, in a period of time which we call a *day*. This day we divide into twenty-four parts, each of which we call an *hour*. But the term day is used in another sense, viz. to denote the presence of the sun, while its absence is called night. Thus when the earth, in its diurnal motion, carries the side we are upon, away from the sun, we have night; when we are carried towards the sun, we have day.

The division of the earth into zones is made with reference to the sun—those parts of the earth over which the sun is sometimes directly overhead, are called the torrid, or burning zone. In the temperate zones the sun is never vertical, but the length of the days is not over twenty-four hours. The other two zones are the frigid; on these the sun shines very obliquely. They have days varying in length from twenty-four hours to six months. That department of geography which treats of the various circles supposed to be described on the earth's surface, as parallels of latitude, meridians, &c., is called *mathematical* geography.

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* These periods are called the *equinoxes*, from *æquus*, equal, and *nox*, night; the night then being equal to the day.

But we have not yet considered what supports the earth ;—wonderful as it may seem,—the earth *stands upon nothing;* like the moon and sun it is suspended in the heavens without support. You know that even a little ball will not remain in the air without being supported by omething: why does the ball fall to the ground ? Why do all heavy bodies fall ? We answer, that they are attracted o the earth by a force called *gravitation.* Now the earth s kept from falling, by the very power which causes a tone to fall.

The sun, by the force of gravitation, attracts the earth owards it; but the earth, when commencing its course, eceived from its Creator an impulse tending to carry it n a direction contrary to the sun : the force of gravitation ends, as we have seen, to carry it directly towards the un ; but the earth, obeying neither force, though inluenced by both, takes a middle course, and is thus kept moving round the sun. The connection of the earth with he sun, and other heavenly bodies, is called *Astronomical Geography.*

Physical or *Natural Geography* is a very comprehenive science ; it includes a knowledge of the materials of which the earth is composed. This knowledge embraces he science of *Geology*, which names and arranges the ocks and other materials which compose the earth; and f *Chemistry*, which teaches the constituent elements of hese substances. Thus you see, that sciences which may appear distinct, have an intimate connection with ach other. Physical geography also comprehends a knowledge of those substances which grow out of the earth, and this knowledge is called *Botany*.

We will suppose ourselves to be seated in a balloon, sufficiently elevated above the surface of the earth to be able to distinguish its general figure and surface. Let us look first at its figure. We behold, suspended as it would seem in empty space, though in reality surrounded by the material substance, *air*, a large ball, not exactly round, but a little flattened at each end, or pole. This ball presents an uneven surface : while it is turning around from west to east, let us examine the various objects which appear. For this we must approach nearer. Here we see a long strip of land extending almost from one pole to the other ; nearly in the centre it seems penetrated by an arm of the ocean ; this must be the great American continent, separated by the Gulf of Mexico into a northern and southern part.

We will suppose that our balloon is somewhat lowered and directed over the northern part of this great continent ; and what do we now see ? On two sides are vast oceans, washing its eastern and western coasts, and on the north an ocean of ice separates it from the pole. Do you observe that chain of lakes ? These are called the *Great* Lakes. Let us approach nearer. With what tremendous force that mighty river rushes over the awful precipice into the dark abyss below ; how dreadful is this sound of "deep calling unto deep," and what a sublime exhibition do we here behold of physical power and force ! No wonder that yonder haughty savage, nursed amidst such scenes, is proud and daring, and still loves his wild solitudes with unshaken attachment ; but, as sure as his loved Niagara loses itself in the ocean, so sure must his race be swallowd up in the rushing tide of civilization, which, wherever e hides himself, with resistless force, comes foaming own upon him.

You see here an extensive country, through which the ivers descend from the north, from the east, and west : this s called a *basin*, and many delightful valleys and plains oes it contain ; its sides on the west and east are the ocky Mountains, and the Apalachian on the north ; the tter, a high ridge which divides the waters that flow wards the northern ocean from those which run towards e southern gulf.

We will now go eastward, and pass that great chain f mountains which is sometimes called the *back bone* of e United States. We are now on its eastern side. Look, nd you will see many rivers flowing towards the eastern cean. Do you observe the north-eastern part of the secon of country we are now viewing ! You may there see ountains with snow-covered tops ; and farther west, anoer chain whose summits and sides are always verdant : etween these mountains, pursuing a southern course, a iver is seen whose progress at first seems hurried, but, y degrees, its youthful impetuosity subsides, and with alm and placid motion, it bears itself on to an arm of the cean, running in from the east, and forming the southrn boundary to a lovely country. The valley of this iver is adorned with the ornaments of art and the richst gifts of nature. This valley, and an extensive terriry on the east and west of it are called New-England, r the country of the pilgrims. History will tell you why hese names are given.

But our aerial journey is becoming too long: we must etrace our way from the happy valley of the Connecticut.

Let us go westward and descend near to the earth—here we see our own Hudson, carrying on its bosom innumerable little objects, passing and repassing in rapid motion, as if actuated by a spirit of intelligence ; but although not gifted with intelligence themselves, they are directed in their course by intelligent minds, and filled with rational beings, intent on business or pleasure. These are steamboats, and they exhibit one of the proudest victories which mind has ever achieved over matter ; two destructive elements being made subservient to man's convenience, and obedient to his will.

We have now arrived at the place where the Hudson river ceases to be navigable ; and here, in a little flourishing city on its eastern band, we will alight from our imaginary balloon, and close our voyage of discovery.

Such are some of the observations of physical geography ; in order to understand it, you must in imagination combine at one view the great features of nature, oceans, lakes and rivers, continents and islands, table-lands, basins, plains, valleys, and deserts : these are the subjects of this science and so are the geological character of mountains and formations of countries. When you know the geological features of a country, you can form a probable estimate of the character of its soil, the quantity of its water, and the number and appearance of its caves. You can tell whether it is likely to contain coal or salt mines, iron or precious metals, and even the plants which would probably be found in it. What is still more wonderful, you can form some judgment of the moral character of a people, from the nature of the soil. Switzerland is famous for its rugged soil, its pure air and water, and its patriotic and independent inhabitants. It is a primitive country, and such a formation requires hard labor for its cultivation. The effect of labor is to form the character of a people to habits of order and industry, and to render them independent of others: indepĕndence produces a nobleness and elevation of feeling, and courage to resist oppression.

A country having a secondary or alluvial formation, is generally fertile; nature almost spontaneously brings forth sustenance for its inhabitants. Man, when not compelled to labor, and ignorant of intellectual enjoyments, degenerates; he seeks only to gratify his senses, and easily becomes a slave to those who will protect and defend him. Slavery, in its turn, still further debases the wretched human being. The situation of the peasants of Turkey, of Spain and Italy, may illustrate the influence of a fertile soil upon the moral character of a people.

But I have, in remarking on national character, anticipated what belongs to *Civil* or *Political* Geography, whose province it is to describe the moral condition of mankind, including their religion, forms of government, moral and intellectual improvement. This view of the world is sometimes called *Historical* Geography.

You will now see that geography is not a science of *memory* alone, consisting of mechanical recitations of the names of places, and the situations of countries, rivers and mountains. It is necessary to learn to view things, first in detail, and then in general, to compare and reflect, in order to become acquainted with geography. And thus you perceive, that although this science is highly useful for the information which it communicates, it also, when properly studied, serves to develop and improve the faculties of reason and judgment, and elevate the moral character.

Besides Mathematical, Astronomical, Physical and Political geography, there is another department of this science called *Statistical* geography, or that which gives an account of the length and breadth, population, boundaries and commerce of different countries.

The study of geography tends to give enlarged and comprehensive views respecting the earth we inhabit. While this science was unknown, and mankind in ignorance of the world on which they lived, the most dark and superstitious fears prevailed, with respect to the living beings who were supposed to exist in certain unknown regions. Even the Romans, enlightened as they were for the period in which they flourished, supposed the hordes of barbarians which poured in upon them, were absolutely without limits, as to numbers, or in the extent of their country. Panick-struck by these terrors, the Romans thus became an easy prey to a people whom they thought it would be in vain to resist.

The decendants of the Romans, afterwards condemned the philosopher Galileo to perpetual imprisonment, for daring to assert that the earth was round, and moved on an imaginary axis. Spigelius, a bishop of Upsal in Sweden, was burnt at the stake for expressing his belief in the globular form of the earth, and that there might be people who had night when it was day in Sweden, and day when it was night there, or that were their *antipodes.**
This doctrine, by the superstitious and ignorant monks, was declared to be a proposition absurd in its very nature, false in philosophy, heretical in religion, and contrary to the holy Scriptures.

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* *Antipodes* is from two Greek words, *anti*, opposite, and *podes*, feet; meaning people who live on opposite sides of the globe, and whose feet are therefore directly opposite.

The discovery of the true figure of the earth has been of incalculable advantage to mankind. Indeed, we cannot, without pity, think of the period when the European knew nothing of the earth, but of his own little continent. All else was dark and mysterious as the regions beyond the grave.

You have read of the difficulties encountered by Columbus in obtaining the assistance necessary to prosecute a voyage, in which he believed that some great discovery awaited him. We cannot, however, appreciate the feelings which agitated him, as hope and fear for the desired aid prevailed. By study and observation he had become convinced of the spherical figure of the earth, and at first thought only of finding a better way of sailing to the East Indies than by the long and dangerous passage around the Cape of Good Hope; but on further reflection, he thought a wise Creator would not have made the proportion of water so much greater than that of land; and therefore inferred the existence of another continent.

While his mind was laboring with these grand ideas, and impressed with the immense importance of ascertaining the correctness of his reasoning, he was, as is often the case with those who attempt great things, treated by many as a madman, or a fool. We may, my dear pupils, justly feel a pride in the thought, that a *woman was the first to comprehend the sublime conceptions of Columbus;* and providential indeed does it appear that this woman was a sovereign, able as well as willing to aid the genius which her mind appreciated. Isabella—let the daughters of Columbia ever hold thy name in reverence! let them remember that, without thy aid, their own dear country might even now have been a wilderness, shared by the savage heathen, and the scarcely more savage beast of the forest!

Ancient Geography.

Geography is properly divided into *Ancient* and *Modern.* Ancient Geography commences with describing countries known in the remotest antiquity respecting which we have any information. Although writers agree in dividing both geography and history into ancient and modern, they differ as to the point of time most proper for their separation. While some fix this at the extinction of the western empire of the Romans, A. D. 476, others prefer to divide at the commencement of the *New Western Empire,* under Charlemagne, A. D. 800. A third period, and one which evidently seems the most proper, is the birth of our Saviour.

This is considered as having taken place 4004 years after the creation. The whole Christian world now reckon time from the birth of Christ; thus we date A. D. (*Anno Domini,* in the year of our Lord) 1831; that is, so many years have passed since his birth. So in public acts, officers of the government date from the independence of our country, it being at this time the fifty-ninth year of American independence.

Should there be persons eighteen hundred years hence who should dispute the fact of such an event as the American revolution, and at the same time, should public acts continue to be dated from this event, would not this very circumstance substantiate the fact?

When did any people, or any individual begin to date from an event which never took place? Were there no other proof of the appearance in the world of Jesus Christ, it would seem as if the fact of so great a portion of mankind reckoning from such an event might convince the most sceptical. Or, if he was nothing more than an obscure carpenter, who imposed on the credulity of a few ignorant fishermen, and was finally put to death for his blasphemies, how has it happened that his birth, after a period of more than 1800 years, is considered a more important event than the creation itself? Even the Deist, who ridicules the Christian, for what he calls his credulity, dates from the birth of Christ. Which, we would ask, is the more credulous, the sceptic who belives things can happen without a cause, or he who relies on evidence the most certain, the most clear and indisputable?

The study of ancient geography should not be commenced before some acquaintance with modern. After learning in the latter the situations and boundaries of places, it is not difficult to connect with them the names by which they were anciently known: thus Caledonia easily becomes associated with the more modern name Scotland, Hibernia with Ireland, Hispania with Spain, Gaul with France, &c. Ancient geography teaches how much the boundaries and extent of countries have changed, and what part of the world was known or unknown to the ancients.

A knowledge of ancient geography is very important to a right understanding of the sacred writings, and ancient history. The nations mentioned in the Old Testament have long since ceased to exist. Of the Assyrian, Babylonian, Egyptian, and Syrian empires, nothing but the names now remains. Their proud capitals, Nineveh, Babylon, Thebes, Tyre, and Sidon, have disappeared from the earth, and scarcely do we know the places which they once so proudly occupied.

The cities of the Canaanites, the Midianites, and Philistines, with those of their conquerors, the Jews, are all swept from existence. The boundaries of these nations, ancient geography cannot well define; all that it can do, is to point out their supposed location. Of the people who inhabited these ancient countries, not a remnant remains, except of the Hebrews or Jews; and they, wandering and dispersed over the face of the earth, though still preserving their ancient customs and religion, prove the truth of the sacred volume, which, while it prophesied their fate as a nation, foretold that they would continue a separate people. A part of the prophecy respecting them, viz. that they shall be collected and restored to their ancient city, Jerusalem, still remains to be fulfilled. The Christian world are looking for this event, as the commencement of the Millenium, or that period "when the whole earth shall be covered with the knowledge of the Lord as the waters cover the sea."

A knowledge of ancient geography is of great assistance in understanding the historical parts of the New Testament. The events there recorded become more deeply impressed upon the mind when the location of the places where they occurred is understood. This science points out Bethlehem, where our Saviour was born; Nazareth, where he dwelt with his parents; the river Jordan, where he was baptized; the desert of Judea, where he fasted forty days; Cana, where he wrought his first miracle; the various countries over which he travelled; the lakes and seas which he crossed; and, finally, Jerusalem, where he was crucified.

A knowledge of the situation of these places, greatly ncreases our interest in the narrative with which they are onnected. Suppose upon an ancient map you follow our Saviour in the various events of his life: you find the Mount of Olives, overlooking Jerusalem, where, beholding hat city, he wept over it; here the garden of Gethsemane, here, being in agony under the burthen of our sins, he rayed; and there another mount, that of Calvary, where, he great work of our redemption being completed, "the aviour bowed his head and said, It is finished." Does not he tracing of these locations help you to believe and ealize the great truths of Christianity?

Without being accustomed to the assistance of sensible elineations, people are in danger of reading the historical arts of the Scriptures, as they would some tale of fancy, hich, floating through the imagination, leaves upon the oul no lasting impression. Not that one cannot be a Christian without a knowledge of ancient geography, or ndeed of any other human science; for, blessed be the ame of Him who has given us "the word of life," it is so imple, that even "the wayfaring man need not err theren." The truths of Christianity appeal to the heart, not to he understanding, and are accessible to the most unenightened. Religion, without science, is infinitely preferable to all human knowledge without religion. But when eligion and science meet in the same mind, both assume a higher character. Science may well be considered as the handmaid of piety; for such it will ever be, unless perverted and abused.

The physical department of ancient geography varies but little from the modern, in comparison with the changes which have taken place in civil geography.

Yet even this does vary, for the very face of nature is changing. It is the business of geology, a science which throws much light upon ancient, physical geography, to trace the progress of creation, until the earth became a solid mass, fitted for the production of vegetable life and a habitation for man and beast. We learn that after this period, various agents have been, and still are, constantly producing changes in the features of our globe. Some operate slowly, as the *air*, which gradually dissolves solid substances, separating rocks into stones, and crumbling these into pebbles and sand. This sand, by the water of rivers is washed towards their mouths, forming new land, or deltas, or accumulating in the middle of rivers, and forming islands. Thus the higher parts of countries are gradually crumbling away, while the lower parts accumulate. Rivers are often blocked up by such accumulations, and their channels turned.

The region around us is probably much changed since the creation, and even since the flood, an event which produced a change in the physical aspect of the globe, greater than any other, or perhaps all others, which have ever occurred. It is impossible to pronounce with certainty, respecting the changes which may have taken place in the region watered by the Hudson and its branches; but while passing down its current, and observing the adjacent country on each side, I have been strongly impressed with the belief that the valley of this river was once a vast lake connected with the lakes on our northern border; that the highlands and pallisadoes were the southern boundary of this lake. The waters forcibly operating upon these barriers, might by degrees have worn them away, until, opening for itself a passage, this mighty mass rushed onward to the ocean. This, however, is mere hypothesis, which should never be confounded with demonstrated theories. Each one of you has a right to make her own suppositions, and to decide upon the probability of the event which has been suggested. If the region about us has once been covered with water, it seems probable that Mount Ida and Mount Olympus were islands in this great lake.

About two miles from this city, on the east, there is a beautiful valley;—by following its course, you will find it winding its way towards the Hudson, resembling in appearance the bed of a river whose channel has been turned, or whose waters are dried up.

On the west side of the Hudson there is a singular ravine, often called the Dry river; this, instead of sloping banks, like the beautiful vale on the eastern side, has abrupt and rugged shores, and a rocky, uneven bed: a little rill yet lingers among the rocks, convincing us, if further evidence were needed, that here has been a noble arm of the Hudson. Although on the eastern side, the vale of which I have spoken bears less incontestable marks of its having been the bed of a river, I have little doubt but that too was covered with water tributary to the large river. Referring then to the supposition that the Hudson river is but the remains of a great lake, which suddenly discharged its waters into the Atlantic, we might suppose that when this event took place, many rivers were formed by the inequalities of the surface; that these rivers in time have changed their channels, or gradually subsided into dry land.

These hints are offered with a view to induce you to pay more attention to the natural features of the different places where you reside, or through which you may travel; to remark the indications of changes in physical geography, which present themselves, in a more or less striking manner, in every region of our country. Even the most familiar scenes, you may never have viewed in reference to any investigation respecting the causes of the appearances which present themselves: by bestowing a little attention to these subjects, nature will appear under a new aspect, and you will almost begin to fancy that you have hitherto walked blindfolded through her curious and wonderful scenes.

Although in many cases we infer physical changes merely from certain present indications, yet we learn from history, of cities being sunk by earthquakes or overwhelmed by the lava of volcanoes, of islands suddenly disappearing, and of other islands being thrown up from the bottom of the sea.

But have you yet studied the Ancient Geography of your own country? We have said that geography should begin at home—Why then have you not been taught the ancient geography of the United States? It is because we have no ancient geography. We are not only a new nation, but the country we inhabit is new. In history until its discovery in 1492, it was inhabited by a race of men, who, ignorant of the arts of printing or writing, left no records of the past. Our ancestors, a little more than two hundred years since, came to this newly discovered country; they found here a savage people, who knew nothing of the arts and refinements of civilized life; who had no history, no ancient or modern geography of their country. They told our ancestors what their fathers had said to them, of their coming from the far west towards the east. But tradition points out no ancient cities like those which from time to time have flourished in the old world.

Suggestions caused by this study.

The most ancient towns in New-England are Plymouth, Boston, Hartford, and New-Haven; in the Middle States, New-York and Albany; and in the Southern States, Jamestown and Savannah. These are, however, young, and mostly flourishing. Antiquity has not yet shrouded any of our cities or our heroes in the obscurity favorable to the sublime. Our Washington is remembered by many who now live, and who knew him to be but a man, though a great and good one. Had he lived in ancient days, his memory would have received divine honors: he would have been enrolled among the demigods, with Perseus, Hercules, Æsculapius, and other heroes and benefactors of mankind.

The study of ancient geography, in bringing you acquainted with places no longer in existence, cannot fail to suggest the transient nature of all human glory and perfection. The works of man are all perishable; and yet these are more enduring than their authors.

To toil a few short years, and then pass away, is the destiny of man, as regards this world;—but the most momentous consequences depend on those few years; even the eternal destiny of the immortal soul. Could we penetrate the unseen world of spirits, as we can, in some degree, the dim twilight of antiquity, we should behold the effects of the short period of earthly existence upon our fellow mortals who have gone before us; for the Scriptures affirm, that " their works follow them."

This consideration should then give new vigor to our efforts;—it is true that marble palaces and temples, and all the works of art crumble into ruins, yet the moral deeds of mankind, though it may seem that they too are carried down the mighty stream of time, are arrested in their progress, recorded in that awful register of human actions which is to remain sealed till the "great day of accounts." Who among us will not have a fearful list of omissions of duty, of commissions of offences, to answer for? Not a single human being is without sin, not one is guiltless. And yet we read in the word of God, that "without holiness no man shall see the Lord." What then shall we do? Are we to be for ever lost, shut out from His presence, who alone can make us glorious and happy? Where shall we obtain the holiness that we need? Where shall we wash away the guilt with which our souls are stained?

Listen, my dear pupils, to the words of the book of life. "The blood of Christ cleanseth from all sin. He was wounded for our transgressions, he was bruised for our iniquities, with his stripes we are healed. His blood is shed for the remission of sins. If we confess our sins, he is faithful and just to forgive us our sins, and cleanse us from all unrighteousness."

LECTURE XV.

History.

Having acquired some knowledge of geography, the mind naturally seeks for information respecting the living, and moral agents, who have inhabited the earth since the period of its creation. There are two methods of studying history; first, by commencing with the earliest periods of society, and descending to the present time; or, second, an inverse or ascending order.

Which of these methods is that of nature? Does the child feel most interested in hearing accounts of what befell his grandparents, or in learning the fortunes of Alexander or Cæsar? We know that he will take a deeper interest in the history of his own ancestors, and of events which have had an important influence upon his own circumstances in life. Proceeding then upon this view of the operations of the mind, we would recommend that the beginner should commence with the history of his own age and country. It would be desirable that every child should first be presented with the history of his own town, then of his own state, and after that, of the whole United Republic. The descending method is agreeable to the order of time; indeed, when a pupil commences with his own age and country, he should at the last pursue this course, in which can be taken a more philosophical view of the connection between causes and their corresponding effects.

The term history is derived from the Latin word *historia*, and literally signifies a relation of facts; thus we term that science which considers facts with respect to the objects of the different kingdoms of nature, animal, vegetable, and mineral, *Natural History*.

We are now to confine our attention to *Civil History*, or that branch which presents us with a record of the characters and actions of mankind. Cicero defines civil history to be "*the testimony of time, the light of truth, the messenger of antiquity, and the school of life.*" History is a word of extensive application, but when used to signify a particular branch of education, it has relation to the origin, progress, and decline of nations; to the distinguished individuals who have exerted an influence upon the public welfare; and to the progress of literature, science, and arts. History is indeed something more than a knowledge of facts: it leads to a consideration of those principles in human nature which give their origin to the various forms of society, from which spring the institutions, laws, and usages of man in his rudest as well as most polished state. History teaches the principles on which nations are founded, and points out the means of improvement, as well as the causes of their depravity and decline.

But it is the mind, matured and practised to judge of causes by effects, that must consider history under its true philosophical aspect: by the young pupil it must be chiefly viewed in relation to events.

Civil history is either *sacred* or *profane.*

Sacred history is that which is contained in the Bible. To this holy volume we are indebted for our knowledge of the origin of our planet. "In the *beginning* God created the heaven and the earth." When was this beginning?—This is a fearful and overwhelming question, carrying the mind back to that period when the Deity existed alone in the majesty of his own glory, and the vast conception of his infinite mind had not yet become manifest in material creations. But matter must have had a beginning;—it could not have created itself;—God must have existed for ever, for he is the first cause of all things, and there is none greater than himself. Nothing can be brought into existence without a cause; what then could have created God? We see that should we attempt to go

urther, and find some power which could have created
he Deity, we must go another step, and ask how that
ower came to exist, and thus we might go on *ad infi-*
itum; not in any manner removing the difficulty, but
multiplying mysteries at every proposition. This is what
he pagans did in their mythology. For although they
called Jupiter the father of gods and men, they accounted
or his existence, by saying that he was the son of Saturn;
Saturn was the son of Heaven and Earth, and they were
he children of Chaos. How Chaos, or matter in an
unformed state, came into existence, the pagans, in their
wisdom, did not attempt to explain.

But let us turn from the childish absurdities of hea-
henism to the light of revelation. "In the beginning
God made the heaven and the earth." God then has ex-
sted from eternity; "he is from everlasting to everlasting,
without beginning of days or end of time." Here I would
sk you for a moment to consider the language of the
acred history;—Was this *beginning* the period when our
arth began to take its present form? This is the belief
f many, especially with those who are little acquainted
with geological facts, and who have not paid strict atten-
on to the import of the language.

The opinion of others, is that the "*beginning*" was that
ventful period, when the *elements* of all the matter which
ow exists in the universe were brought into existence.
Respecting what took place after this august beginning of
material existence, except as relates to our earth, the
acred writings do not inform us. The history of other
worlds is not known to us; nor for how many centuries of
ges they might have been going on to perfection, before
he Almighty thought proper to shape into its present form

the matter which composes our globe. It seems probabl that between the fact recorded in the first verse of Gen sis, and that in the succeeding verse, a vast interval of tim had elapsed. But the sacred historian leaves that perio as not relating to man, and hastens to speak of the eart This, he says, "was without *form*, and it was void, (or chaotic mass,) and darkness was upon the face of the dee and the *Spirit of God* moved upon the face of the *waters.* It appears that this formless mass was in a fluid state ; an geology furnishes abundant evidence to prove, that fro such a state our globe must gradually have become consolidated.

The Spirit, or power of God, now operating upon thi chaotic mass, from darkness produced light, and a serie of changes at length brought the earth into a habitabl state. Man was then formed, not of matter created newl for that purpose ; but his body was made of the dust o the earth; and animated by the breath of the Almighty.

In the history we are now examining, we thus lear the production of our earth, and the origin of the huma race. We find Adam and his companion, placed in th delightful garden of Eden, favored with the company o angels, and personal communion with God himself. Bu yielding to temptation, our first parents disobeyed the commands of their Maker, and thus " brought death into the world and all our wo." Here we see the *origin of evil;* a subject, about which metaphysicians have been much perplexed. For the same ambition which led our first parents to sin, still urges their descendants to study into things transcending their own limited faculties, and to pass by those simple records which the Almighty himself has caused to be written for their instruction.

Let us now take a rapid review of the records of our ace after sin had entered the world. A brother, urged by envy, raises his hand against an innocent brother, and or the first time death appears among men. Cain is driven forth a vagabond upon the face of the earth. It ppears that he built a city called Enoch, after the name of his son ; this city was probably nothing more than a collection of his descendants into one place, where they inhabited rude and temporary dwellings.

Although some "walked with God," yet there were many who followed their own evil devices, until wickedness had so much increased upon the earth, that the Almighty resolved upon the destruction of the whole human race by a deluge. Noah and his family alone were spared, by taking refuge according to divine counsel, in an ark, constructed in a peculiar manner. The deluge is supposed to have taken place about 1600 years after the creation. The earth was repeopled by the three sons of Noah. Before the flood mankind lived to the age of several hundred years; after this time the period of human life gradually shortened to seventy or eighty.

The scene of the great events which we have now so hastily sketched, was in Asia. The place where was situated the garden of Eden is not known ; for, after the fall, its beauty and loveliness disappeared ; thorns and thistles sprung up, and man was obliged to gain his subsistence by the sweat of his brow.

No records except the sacred writings give us any knowlege of the history of man previous to the period of the deluge. These writings were carefully preserved by the Jews. They were the descendants of Abraham, a man especially consecrated by God as the father of a chosen race. Moses, the author of the five first books of the Bible, or of the Pentateuch, as they are sometimes called, is the most ancient historian of whom we have any knowledge. Sacred history, after the deluge, is mostly confined to the Jewish nation.

Profane history is so called in contradistinction to sacred. Of profane historians, the most ancient is Homer; but his relations are so mingled with fiction, that his feeble light serves but to manifest the thick darkness of the period in which he lived. His poems chiefly relate to Greece and the coasts of Asia Minor, the Trojan war, and the exploits of Grecian and Trojan heroes.

The first writer of profane history who can be relied upon is Herodotus, who wrote after the invasion of Greece by Xerxes ; Thucydides and Xenophon appeared soon after, and these three writers may be considered as the fathers of Grecian history. At this period, eloquence was the idol of the Grecian people ; and as their historians read their own works in popular assemblies, they sought rather to adorn them with the beauties of style than to give a narrative of facts : their writings were but a kind of historical romance, in which their own countrymen figured as heroes, and their own country was extolled with all the enthusiasm of the most glowing imagination. These historians were the Scotts and Coopers of ancient days.

The Roman historians, Polybius, Tacitus, and Sallust, were more philosophical and dispassionate. Livy was richer in the ornament of language, but less correct. Cæsar wrote chiefly of his own wars, and described military operations in a more vivid and distinct manner than any succeeding writer has done. Had Napoleon Bonaparte written the history of his own campaigns, he would probably have equalled Julius Cæsar in conciseness and vividness of language, as he did in military skill and unbounded ambition.

As we descend to more modern times, we meet in French with the writings of Bossuet, Voltaire, &c. Among English writers, Hume, Robertson, and Gibbon are conspicuous.

Our own country, young in its literature, already possesses historians of acknowledged merit. To trace our history, from the little band of pilgrims who first landed on Plymouth rock, through the trials of our forefathers by savage cruelty, famine, and pestilence, and to follow the patriots of the revolution through their struggle for independence, are employments which have warmed the heart and engaged the pen of many a gifted American.

But what, let me ask, do you suppose to be the chief advantage of studying history? Is it necessary only that your minds should be stored with a mass of facts? that you should know that in such a year the pilgrims landed, that in such a year commenced, and in such a year ended the revolutionary war? All knowledge to be useful must have its *practical application*. In the character of the New-England fathers we see many noble examples of heroism, amidst dangers and discouragements. In American history we see many of our own sex leaving their native country, and the elegancies of refined society, that they may, in a savage wilderness, across the distant ocean, find at

" Faith's pure shrine, freedom to worship God."

From such examples we should derive important moral lessons;—from the conduct of those who have preceded us, we can gain that most important knowledge, the knowledge of human nature—of ourselves.

From whence come wars and fightings? Come they not from the evil passions of men? But none of you are heroes or conquerors, who would wade through blood to reach a throne, or post of honor! True, but have none of you some darling object, in the attainment of which you would trample on the feelings, or wound the hearts of your companions? Do you never wage the war of tongues, which often sting like adders, and poison the peace of a fellow being? When you read in history the fate of the ambitious and contentious, you should learn from this, that they who sow the seeds of strife reap the fruit of bitterness.

The chain of historical knowledge is by no means an unbroken one. There have always been many nations ignorant of written language; and the historical records of antiquity are far from being all known to us. The histories of the eastern or oriental nations, Egyptians, Syrians, Chaldeans and Persians have mostly perished. The Greek and Roman histories, and the Holy Scriptures, contain all the authentic accounts of a period anterior to the foundation of Rome. The Roman history is the only one which throws light upon a period of nearly five hundred years after Christ. After the fall of the empire of the west, the kingdoms of Spain, France, Italy, and England, have each its particular history; and about this time commence the histories of Germany, Hungary, Sweden, and Denmark; this period is sometimes called the commencement of *Middle History.*

Respecting the countries now Mahometan, Egypt, Syria, Persia, and the northern part of Africa, we know little of their history for the last thousand years. The Chinese history is chiefly a collection of fables and absurd traditions. Of the American Indians we have no authentic history beyond the time of the discovery of the western continent. We see how little then is known of the whole actual extent of the globe during the course of ages which have passed since the creation. Yet there are histories without number, but it is only by a careful selection and perusal of the best authors, that much advantage can be derived from them. In early youth, history interests the mind chiefly on account of the pleasure derived from narrative. As the pupil advances in life, it ought to be regarded under a new aspect, and studied both for the sake of gaining information, and forming the mind to habits of discrimination and reflection. One who reads history merely for amusement, or who loads the memory with facts, without regard to their importance, or examination of their causes, may read much, and yet neither know men, manners, laws, arts and sciences, neither the past or the present world, nor the relations which they bear to each other.

A modern French writer* on education, advises the student in history to make use of books of extracts, in which facts and principles may be noted in a definite, and systematic order. By this means, the student will, in process of time, possess a collection of practical truths, and of illustrations of principle, arranged in order, and furnishing instruction, at once solid, diversified, and complete. The following are some of the subjects proposed for heads or titles of the *historical common place book.*

1st. *Education, or the art of forming the character of man.* Collect and class as far as possible, by age and by nation, the laws, customs, and facts relative to public or

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[*] M. Julien, editor of the "*Revue Encyclopedique,*" one of the first literary journals in France.

private education, in different ages and among different people.

2d. *Politics, or the art of rendering a people happy.* Collect the facts, observations, laws, customs, and manners which appear to have had an influence upon this subject.

3d. *Women—Their influence considered among all people, and in all ages.* Collect the facts, observations, anecdotes, portraits of characters; in short, any thing which has had an influence, and still has a bearing upon the condition of females. Point out the effects, salutary or otherwise, which different modes of religion, education, state of society and manners have had upon the condition and character of women, and, through them, upon the whole human race.

4th. *Comparison of great men.* Arrange according to age, nation, and rank, the distinguished persons of history. Describe their characters, the qualities for which they were distinguished, the points of resemblance between them, the nature and degrees of influence exercised by them upon the age in which they lived, their profession, and their country.

5th. *Religion.* Study, in different ages of the world, and among all nations, the different characters of religious belief and institutions, their influence upon human character and happiness, the means employed for their support, and the effects produced by them upon society at large.

This manner of reading, studying, analyzing, and generalizing, will have an important influence in forming the judgment, strengthening the memory, and giving enlarged and correct views of persons and actions, with habits of careful observation, and of impartial comparison.

The method above delineated is particularly recommended for your private reading, especially when you shall have left school, and can no longer have the advantage of hearing observations and explanations on the subjects of your study. The same method might be followed with equal advantage in the pursuit of other branches of knowledge as well as history. It would be advisable for every young lady, after leaving school, to commence a systematic course of historical reading. During the progress of school education, not more than an outline of general history can be given. This outline, however, will be of great importance in subsequent reading. A good system of chronology, or classification of events in the order of time, cannot be too early learned: with this, and an outline of general history, the facts afterwards gained will naturally arrange themselves under their respective epochas. On the contrary, without a systematic arrangement of historical facts, reading will be of little use.

Parents sometimes express an indifference as to their children studying history at school, because they can read it at home. But history ought to be *studied,* in order that it may be afterwards *read* to advantage. It should early be associated with geography; and maps should be drawn and used at each day's recitation.*

After becoming acquainted with Scripture History, it would be well to read Josephus's Jewish Antiquities, and Rollin's Ancient History. By the assistance of these works, and the use of ancient maps, you will acquire correct, and extensive views of ancient history. Plutarch's Lives of the illustrious men of antiquity, is a work highly interesting as well as useful. It not only gives the history of great men as they appeared in public and political life, but shows their private and domestic characters, and unfolds their secret sentiments and springs of action. When contemplating the characters of the great and good, we feel the influence and utility of that principle of our nature which Lord Kames has happily called the *sympathetic emotion*. We are seized with the desire of imitating and resembling what we admire. Were this sympathetic emotion always confined to virtue, the influence of bad examples would be less hurtful to society; but unhappily, every thing which the young mind admires, it is prone to imitate.

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* An universal history for schools, entitled "History in Perspective," by Mrs. Willard, is now in press. I think teachers will find this work, with the accompanying Atlas, a valuable assistant in this department.

A daring and audacious courage always finds admirers; and that ambition which would wade through blood to reach a distinguished post, seems grand and heroic. It is however very important that the young should learn to look on actions and motives as stripped of their dazzling accompaniments; then will virtue and greatness alone excite the sympathetic emotion which prompts the desire of imitating. Then will the character of the just and benevolent Trajan appear far more lovely and desirable than that of the aspiring and ambitious Cæsar, and the grasping selfishness of Bonaparte appear mean and contemptible before the generous magnanimity of a Washington.

The Travels of Anacharsis the Younger is a work much merit. The author is the Abbe Barthelemy; he assumes the name of Anacharsis, after the Scythian f that name, who was ranked with Thales, Solon, and thers, termed the seven wise men of Greece.

Barthelemy, under the name of Anacharsis, supposes imself to be travelling in Greece at the time of Philip of acedon, and during the youth of his son, Alexander the reat;—yet as the historical events related are all in strict ccordance with truth, the writer is thus enabled to pre-ent a lively picture of the events of that period. He car-ies his history back to the earliest periods of Greece. He ys before us the laws, form of government, customs, reli-ion, and domestic life of the various people who compo-ed the confederation of the Grecian republic: he ex-lains their mythology, gives the characters and opinions f their philosophers, describes their poetry, and improve-ents in the arts of painting, music, and sculpture. You eem to be transported to Greece in the days of her glory, nd to see before you her beautiful works of art, to hear e thundering eloquence of her orators, the majestic umbers of her poets, and the wisdom of her sages. After e reading of this work, should follow some good history f the rise, progress, and decay of the Roman empire. he Roman historians you will read in pursuing your assical studies; but it is not to be expected that many you will become sufficiently familiar with their original nguage to read it with facility. Gibbon's Rise and Fall the Roman Empire is well written, and were it not for e hostility to the Christian religion which occasionally ils his, otherwise, beautiful pages, it might be recom-ended;—indeed, as it is, there is little danger that any e educated and settled in a religious faith should be herwise affected by his occasional sneers, than with pity for the mind which could thus blind itself to what is most glorious of all the works of Almighty benevolence.

Vertot's Roman Revolution gives an interesting account of the origin, manners, and customs of that republic; it exhibits the political agitations to which its people were subject, with their effect in changing and modifying their government.

The history of the middle ages is well given by Condillac. Accustomed to reason with metaphysical accuracy, this philosopher was well qualified for a historian, whose duty it is to trace effects to their cause. He explains the origin of the feudal power or authority of the barons; the causes which produced the institutions and enthusiasm of chivalry, and its influence upon the manners, morals and religion of those days. He shows the causes which retarded the progress of science during that dark period, when almost all the learning was in the hands of superstitious monks, and enthusiastic alchymists, and gives a clear and interesting account of the revival of learning in the fifteenth century.

Although history is usually divided into Ancient and Modern, it seems very proper to consider that of the middle or dark ages under one point of view. Middle History is considered as including that portion of time which intervened between the destruction of the western empire in the year 700, and the revival of letters at the discovery of America, in the fifteenth century.

Modern Histories are numerous. Among the most useful are Hume's England, Robertson's Charles V., Voltaire's Charles XII., Milot's France, Raynal's Political and Philosophical History of the Indies, Bigland's View of the World, Marshall's Washington, and Pitkin's and Willard's United States.

There is one view in which history appears peculiarly interesting to females; it is with respect to the gradual changes which have taken place in the condition of their own sex.

In the garden of Eden, woman was cherished as the tender friend and intelligent companion of man. We have reason to believe this, both from the language of the Scripture, "She is bone of my bone, and flesh of my flesh," and from the perfect condition of man at that period.

For, in order that society should exist in its perfect state, woman must hold that rank, and exercise that influence for which God designed her. But alas! woman was frail, she listened to the voice of flattery, disobeyed the command of God, and influenced her companion to become an accomplice in guilt. From that time, she was degraded, and long ages saw her a servile being, counted with his flocks and herds as the property of man.

At length light dawns upon the condition of this abject being, whose spirit had been bent and broken by servitude. The voice of pardoning mercy says, "Woman, go and sin no more." The Saviour of the world looks with pity upon the suffering being, who clings to him as her friend and heavenly benefactor: she follows him with the constancy of her nature, through evil report and good report; is last at his burial, and first at his resurrection.

Since those glorious events, our sex have been honored wherever the name of the Redeemer is worshipped. Many, like Lois and Eunice, the grandmother and mother of Timothy, bishop of Ephesus, have been the honored instruments of promoting the cause of true religion, and their praise has been heard in the churches.

LECTURE XVI.

Mythology.

The study of Mythology, which formerly held a high rank in the education of both sexes, especially in Europe, has been superseded by more valuable sciences. It now appears absurd to introduce to the young mind the disgusting fables of ancient heathenism. Nothing can be more injurious in its tendency upon the glowing imagination of youth, than many of the stories connected with the Grecian Mythology; and yet they are so interwoven with ancient classical literature, and so frequently alluded to by modern writers, especially some of the best English poets, that an acquaintance with these fictions seems necessary to those who aim at a knowledge of general literature. It becomes then important that mythology should be purified of its grossness as far as possible, before a knowledge of it is communicated to the young.

The term mythology is derived from the Greek *muthos*, fable, and *logos*, knowledge. It is a science which treats of the fabulous opinions and doctrines of the ancients respecting the deities, which they supposed presided over the world, or influenced its affairs. The arts of painting and sculpture have done much to immortalize the Grecian mythology. Some of the noblest specimens of ancient arts are to be seen in the embodying of mythological fable; as the famous statues of the Venus de Medici, Apollo Belvidere, &c. Architecture has also lent its aid to perpetuate this false and absurd religion. Marble temples of the most exquisite workmanship and the most beautiful proportions, were erected in honor of the gods and goddesses. At Ephesus was the famous temple of Diana, at Athens that of Olympian Jove, and at Delphos, that of Apollo. Within each temple was placed a statue of the deity, and before this the priest offered sacrifice.

The Athenians becoming tired of these idle ceremonies, and losing all faith in their idols, at length erected an altar to the "*Unknown* God." Paul, seizing upon this indication of a willingness to be taught a better faith, declared to them, "*Whom therefore ye ignorantly worship, Him declare I unto you.*"

I will now attempt to give a brief sketch of the system of Mythology as taught by the Grecians, and with some modifications received by the Romans.

The origin of the gods, and the celestial deities.

Referring to the beginning of all things, mythology supposes there was a time when only *Chaos* and *Night* existed; they were the parents of Earth, who was the mother and wife of Uranus (or Heaven.) From Earth springs the hundred-armed giants, Cottus, Gyges, and Briareus, the huge, one-eyed Cyclops, *Brontes*, *Steropes*, and *Arges*. The gigantic Titans, Oceanus, the Titanides (or female Titans) are all the children of Earth.

Saturn, the youngest of the Titans, marries Rhea, and from them descend Jupiter, Vesta, Ceres, Neptune, Juno, and Pluto. Jupiter, assisted by the Cyclops, who prepare his thunderbolts, declares war against Saturn and his brethren the Titans.

The modern gods, or the descendants of Saturn and Rhea, now become distinct from the Titans, or ancient deities. War ensues between the two parties. After a conflict of ten years, Jupiter, by obtaining the assistance of the hundred-armed giants, becomes victorious, and hurls his enemies into the gulf of Tartarus.

The ancient realm of the Titans is now divided among the three victorious sons of Saturn. Jupiter takes the government of the heavens and earth, Neptune of the seas, and Pluto of the infernal regions. The hundred-armed giants are appointed to guard the entrance into Tartarus, the prison of the Titans.

Earth, indignant at the treatment of her chidren, the Titans, brings forth a new race to be their avengers; these are the giants, who wage war anew upon Jupiter. The giants being subdued, Typhon, another child of Earth and Tartarus, appears. The upper part of the monster's body was covered with impenetrable feathers, and the lower parts enveloped in the folds of horrible serpents. This formidable enemy is at length conquered and secured under mount Etna. After this, two sons of Neptune, of immense strength and size of body, attempted to scale the heavens, by piling mountains on mountains, placing upon Olympus, Ossa, and upon Ossa, Pelion. Apollo defeats this bold design by destroying the rebels with his arrows. Saturn, after his defeat, is said to have fled to Latium, where, under his reign, peace and justice flourished, and the earth spontaneously brought forth her increase: this was called the *golden age*. This account of Saturn is founded upon the supposed fact, that a king of Latium built, near the Tiber, upon the hills where Rome was afterwards founded, a city called Saturnia. Saturn is represented upon ancient medallions, with a scythe in his hand; he is the symbol of time, which destroys all things, as he destroyed even his own children. Prometheus, a son of one of the Titans, amusing himself in fashioning a figure after the image of the gods, is suddenly seized with the desire to perfect his work by giving it life and animation. Accordingly he steals from heaven a spark of the sacred fire, by means of which the inert mass becomes endued with warmth and intelligence; this image he called *man*. Jupiter, resenting this infringement of his own creating power, orders Prometheus to be fastened to a rock, with a vulture feeding upon his bowels, which, as fast as they were consumed, continued to grow, so that he could have no hope that his torments would ever end. Pandora is sent by Jupiter to present mortals with a box, containing all the miseries to which human life has since been subject. Hope, at the same time, was given to save them from despair. Jupiter, resolving to destroy the race of men, sends upon the earth a deluge, which overwhelmed all but two persons, Deucalion and Pyrrha. Hercules afterwards reconciled Jupiter to Prometheus, and, killing the vulture, delivered him from his agonies.

We see that heathenism itself had borrowed light from the sacred oracles. The wars of Jupiter with the Titans and the giants, and their confinement in Tartarus, are analogous to the Scripture account of the war against the fallen angels, and their expulsion to the regions of dark-

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ness. The deluge of the heathens seems evidently to refer to the flood which God brought upon the earth for its wickedness; and Deucalion appears to be but another name for Noah. Hercules, who was the saviour of the world, delivering it from monsters who had power over its inhabitants, seems to be an imperfect and depraved conception of that Saviour who was afterwards to limit the power of Satan upon earth, to save man from the agonies of the vulture sin, which had so long preyed upon his heart, and to reconcile him to an Almighty Sovereign. And yet these representations, analogous in some respects ot facts communicated in the Scriptures, are so obscured by gross and palpable fictions, that we scarce know whether most to pity or despise those who invented and believed them.

Jupiter is called the father of gods and king of men; he is sometimes termed Jupiter Olympus, from the mountain on which he was supposed to hold council with the gods.* The top of Olympus was supposed to rise far above the clouds, into a region of pure ether; here the gods sipped nectar, and enjoyed the music of Apollo's lyre, or conversed upon, and determined the destinies of mortals. Jupiter Ammon was worshipped in Lybia. He is also called Jove, and is generally represented in antique gems, as seated upon a throne, holding a sceptre in his left hand, and the thunderbolts in his right, with an eagle at his feet. Juno, the queen of heaven, the sister and wife of Jupiter, is represented in ancient sculpture, as seated in a chariot drawn by peacocks, or sitting upon the eagle of Jupiter, having in one hand a sceptre, and with the other hand holding a veil spangled with stars, which floats over her head. The character of Juno has ever had too many prototypes among our sex; for beauty often inspires ts possessor with the desire of power, which destroys the softness and delicacy that ensure permanent affection. Scornful and imperious Juno may excite admiration, but ove can be felt only for a character in which there is something gentle and tender; thus Venus, with downcast ooks and tearful eyes, appears more lovely than she, ‘ who walked a goddess, and who moved a queen."

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* "*Panditur interea domus omnipotentis Olympi,*
Conciliamque vocat Divûm pater atque hominum rex."—VIRGIL.

Meanwhile the palace of all-powerful Olympus is opened, and the father of the gods and king of men summons a council.

Stung with jealousy by the preference which Paris, a Trojan prince, gave to the beauty of Venus, Juno instigates the Grecian states to make war upon Troy; and, after a ten years' siege, accomplishes the destruction of that city, and the hated race of Priam, father of Paris. But Trojan Æneas, the son of Venus and Anchises, escapes with the remnant of his companions, and, after suffering various ills "by sea and land, on account of the merciless anger of cruel Juno,* he arrives in Italy, and lays the foundation of the Roman empire.†" Even sullen Juno,‡ who, through jealousy, had kept the heavens and earth and sea in a tumult, is at last appeased, and becomes the friend of the Romans.

Venus, the goddess of love and beauty, is sometimes

[*] "*Saevae memorem Junonis ob iram.*"

[†] "Genus unde Latinum,
Albanique patres, atque altæ moenia Romae."

From whence the Latin race,
The Alban fathers, and the walls of lofty Rome.

[‡] "Aspera Juno,
Quæ mare nunc terrasque metu cœlumque fatigat."

considered as having sprung from the foam of the sea, and called Aphrodite; but among the modern deities, she is a daughter of Jupiter and Dione. In the character of Venus, we see beauty and softness, without wisdom, or force. Although aware of the dreadful ruin which would fall upon the Trojans, in consequence of the misdeeds of Paris, yet so much did she value her reputation for beauty, that in order to secure his decision in her favor, she promised him for a wife the fairest woman upon earth, Helen, wife of Menelaus, king of Sparta. Beauty has ever been the cause of much suffering and folly, and will continue to be so, until females shall learn to consider it as subordinate to wisdom, and to be cautious lest they sacrifice the nobler aspirations of the heart to the pride of external charms.

Venus, attended by the graces, and her son Cupid, is represented as seated in a chariot drawn by doves. The famous statue of this goddess, called the Venus de Medici, proves the perfection to which the ancients carried the art of sculpture. Temples to Venus were erected in Paphos, Cytherea, and Lydia.

Minerva, the goddess of wisdom, sprung forth in complete armor, from the head of Jupiter. Not being the offspring of woman, she is represented as devoid of female tenderness, and the softer qualities of the sex. While the intellectual powers are, in her character, exhibited in their greatest perfection, the emotions seem to form but a small part of her mental constitution. She conducted wars, and invented useful arts. She was the friend of Ulysses, and under the form of the aged Mentor, watched over and counselled his son Telemachus.

For a perfect female character, it would be necessary that the soft and tender heart of Venus should be added to the judging head of Minerva, and the dignity without the hauteur of Juno. As to personal beauty, this depends so much upon the expression of mental qualities, united to grace and dignity of demeanor, that the plainest daughter of Eve, who should thus unite *sensibility*, *wisdom*, and *dignity*, would appear beautiful and lovely.

Minerva is usually represented with a helmet upon her head, and in her right hand a spear, and the formidable ægis, or shield, with the head of Medusa in her left. The owl, which is sacred to her, is usually seen near her. This goddess showed that she was not wholly destitute of that weak vanity which the world have persisted in ascribing to her sex. Having invented the flute, she was one day playing on this instrument, when she perceived, by the reflection of herself in a river, that the effect upon her personal appearance was far from being to her advantage; upon this, the fable says, she threw her flute away! Of all the satires of the ancients upon women, this is one of the most severe.

Apollo, in the Grecian mythology, is made to sustain various characters. He is the charioteer of the sun, the god of music, medicine, poetry, prophecy, the fine arts, and archery. He is called Sol, Phœbus, and Helios. Apollo and Diana were twins, the children of Jupiter and Saturn; they were born upon the Isle of Delos. Some of the goddesses wrapped him in soft garments, while others fed him with nectar and ambrosia. He had no sooner tasted the food of the gods, than throwing off his swathing bands he appeared as a blooming youth, and exclaimed: "The golden lyre shall be my joy, the carved bow my pleasure; and in oracles I will reveal the events of futurity."

Thus speaking, he marched forth majestically, and at length arrived at the foot of mount Parnassus, from whence he ascended to the mansions of celestial beings. Here, welcomed by the graces, he charmed the deities with the tones of his lyre, while the muses responded to his harmonic numbers.

Diana, the sister of Apollo, is represented by the moon, as Apollo is by the sun. Three of the goddesses, Minerva, Vesta, and Diana, devoted themselves to celibacy, refusing to yield to the power of Venus, the goddess of love. Diana is the patroness of the chase; she was usually represented by ancient sculptors with a bow and arrow suspended from her shoulder, and a torch in her hand.

Mars, the god of war, was the son of Jupiter and Juno; his characteristics were impetuosity and courage, unrestrained by wisdom. On complaining to his father, Jupiter, that Diomedes, aided by Minerva, had wounded him in a combat before the walls of Troy, he was thus reproved: "Trouble me not with thy complaints, who art to me the most odious of all the gods that dwell on Olympus, for thou knowest of no other pleasure but strife, war, and contest; in thee dwells the whole character of thy mother, and hadst thou been any other than my own son, thou wouldst long ago have been plunged deeper into Tartarus than the Titans." Bellona, the sister of Mars, is his charioteer.

Mercury was the son of Jupiter and Maia, the daughter of Atlas. He was born in the morning, and at noon leaving his cradle, he saw by the threshold a tortoise, which he thus addressed: "Thou art now dumb, but after thy death thy song shall be heard." Having killed the animal, he fitted to the shell seven strings, from which he drew forth sounds which so delighted him, that he broke forth into praises of the domestic utensils about his mother's dwelling, until his song soared at length to the sublimest subjects. Mercury was the swift messenger of the divinities, and the god of language; the tongues of victims were offered to him in sacrifice. He was also the patron of trade and of cunning devices. The Greek name for Mercury was Hermes, a word signifying to interpret. It is generally believed that, under these names, divine honors were paid to some person, who, in a remote period of antiquity, had enchanted mankind by his poetry, and benefited them by useful inventions.

Bacchus, the god of wine, was celebrated by the most tumultuous and licentious rites. He is usually represented as followed by Silenus, an old man seated upon an ass, and reeling with intoxication, while sarcastic satyrs and sportive fawns are dancing around him.

Vulcan, a son of Juno, being deformed and lame, was by Jupiter thrown from Olympus down to earth. He was afterwards admitted to the assembly of the gods, whom he amused with his awkwardness and wit. He was the husband of Venus, to please whom, he, with the aid of the Cyclops, manufactured arms for Æneas.* To him was committed the business of making Jupiter's thunderbolts: his principal forge was under Mount Etna.

Ceres, the goddess of corn, taught mortals to cultivate the earth; she was the mother of Proserpine, whom Pluto privately seized and carried off to the infernal regions to be his queen. Ceres, having learned the abode of her daughter, obtained Jupiter's consent for her release from hell, provided Proserpine had not tasted the food of those realms of darkness; but this, not being the case, she could never be wholly restored to her former companionship with the celestials.

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* "Terram, exercebant vasto Cyclops in antro,
Brontesque, Steropesque et nudus membra Pyracmon."

The Cyclops, in their vast cave, labored upon the steel, Brontes,
And Steropes, and the naked limbed Pyracmon.

Vesta was worshipped by the ancients, as the deity who presided over domestic comfort, as the one who taught families to gather around the sacred hearth, and to prepare food with fire.[*] She, they believed, taught man to build a shelter for himself and those he loved; thus the entrance into a dwelling was called the ***vestibule***, and considered as sacred to Vesta.

Marine Deities.

The sea was made subject to Neptune, the brother of Jupiter. He was the father of the monstrous Cyclop, Polyphemus,[†] who had been deprived of his eye by Ulysses. For this injury, Neptune pursued him with his vengeance, causing him to suffer shipwreck and all the perils of the sea; but from these he was preserved by the aid of Minerva. Neptune produced the winged horse Pegasus. At a certain time, he was sent by his master to command the muses to put a stop to their songs and mirth, which so shook the surrounding regions, that Helicon itself was dancing beneath their feet. Having reached the top of mount Helicon, Pegasus executed his commission by pawing violently upon the ground; whereupon that fountain burst forth, from which poets have since drank the divine inspiration; this was called Hippocrene. Neptune is represented in antique sculpture, as holding in his hand a trident, or fork with three teeth, instead of a sceptre: he is drawn by sea-horses; his son Triton is blowing a trumpet made of a sea-shell, and the dolphins are sporting around his chariot. Amphitrite is the wife of Neptune and queen of the sea; she appears seated in a car shaped like a shell and drawn by dolphins; the sea-nymphs hold the sail which is swelled by the breath of Zephyrus (the west wind;) like her husband, Amphitrite holds a trident in her hand, by which she rules her empire.

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[*] The domestic hearth was consecrated to Vesta; thus, Æneas:

> "Cineram et sopitos suscitat ignes,
> Pergameamque Larem, et candæ penetralia Vesta,
> Farre pio, et plena veneratur acerra."

Æneas awakes the embers and dormant fire, and suppliant worships his Trojan household god, and the shrine of ancient Vesta, with a holy cake and full censer.

[†] "Monstrum horrendam, ingens informe: cui lumen ademptus."
A huge, misshapen, horrible monster; to whom sight was wanting.

Proteus, a son of Oceanus, is the keeper of Neptune's seals; he is considered an allegorical representative of nature, assuming every variety of appearance, fire, water, animal, plant, or mineral; to those only who grasped him firmly, he revealed his real character.

Infernal Regions and Deities.

The dominions of Pluto included both Tartarus, the abode of the wicked, and Elysium, the dwelling of the good and happy. The Atlantic ocean was considered the boundary of the earth, mount Atlas sustained the sky upon its broad shoulders, and near the western horizon were the gardens of Hesperides, with their golden fruits.

The river Acheron was the passage from the earth to the dominions of Pluto, over which Charon ferried departed souls, and on the opposite bank was the three-headed dog Cerberus. Cocytus, Styx, Phlegethon, and Lethe, were rivers of Tartarus;[*] Milton says:

> "Four infernal rivers disgorge
> Into the burning lake their baleful streams:
> Abhorred Styx, the flood of deadly hate;
> Sad Acheron, of sorrow black and deep;
> Cocytus, named of lamentation loud
> Heard on the rueful streams; fierce Phlegethon,
> Whose waves of torrent fire inflame with rage.
> Far off from these a slow and silent stream,
> Lethe, the river of oblivion, rolls
> Her watery labyrinth, whereof who drinks,
> Forthwith his former state and being forgets,
> Forgets both joy and grief, pleasure and pain."

Pluto was called by the Greeks, ***Hades***, the ***Invisible***, or ***Unknown.*** He was sometimes called Stygian Jove. At Alexandria, in Egypt, he was worshipped under the name of Jupiter Serapis. He was considered as presiding over the dead, and funeral obsequies. The seizure of Proserpine by Pluto is considered an allegorical representation of youth and beauty falling a prey to sudden death. In these gloomy abodes Pluto and Proserpine are seated in that eternal and mournful silence, which is characteristic of their empire.

Plutus is the god who presides over riches: deformed and wretched, he is represented as seated on a hrone of gold under a canopy studded with precious gems. This allegory shows the unsatisfying nature of wealth; hus Milton :

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[*] "*Huic via, Tartarei quæ fert Acherontis ad undas:*
Turbidus hic cœno, vastaque voragine gurges
Aestuat, atque omnem Cocyto eructat arenam
Portitor has horrendus aquas er flumina servat
Terribili squalore Charon."

"Here is a path which leads to the waters of Tartarean Acheron; here a turbid and impure gulf boils with mud and vast whirlpools, and vomits all its sand into Cocytus. A grim ferryman, Charon, frightfully squalid, guards these floods and rivers."

> "Let none admire
> That riches grow in hell; that soil may best
> Deserve the precious bane."

The Fates and Furies.

The *Fates, (Parcæ,)* were the destinies who presided over the lives and fortunes of man; Clotho holds the distaff, Lachesis spins the thread of life, and Atropos, with he terrible scissors, cuts it off.

The *Furies,* were Tisiphone the avenger of murder, Megæra the wrathful, and Alecto the restless—these are frightful beings, with snakes instead of hair, and garments smeared with blood. The Furies were so dreaded by men, that their names were seldom pronounced. They were supposed to pursue the guilty with never-ceasing tortures; thus Orestes, for the murder of his mother, was for ever followed by their vengeance.

Demigods.

Besides the celestial, marine, and infernal gods, the ancients paid divine honors to a race of *demigods,* or *heroes,* who had distinguished themselves for some great exploits; as Perseus, who cut off the head of the dreadful Medusa, and devoted it to Minerva; by her it was placed in the centre of her shield, the mighty *ægis.* Perseus delivered Andromeda, the daughter of Casseopeia, from a monster; these names have been immortalized by being transferred to the constellations.

Bellerophon signalized himself by the destruction of the monster, Chimera; Hercules was distinguished for many great acts, by which he freed the earth from plagues of various descriptions. The names of Theseus, Jason, and many other famed heroes, are recorded in the annals of mythology. Some of them undoubtedly were distinguished men of a remote period, others are probably wholly fabulous beings.

The Muses, Sirens, and Graces.

Too much of our time has already been given to the consideration of mythological fictions, and yet we cannot close the subject without noticing a class of imaginary beings, who in the minds of men seemed to form a connecting link between the gods and men—these were the nine Muses, daughters of Mnemosyne, (memory,) to whom their venerable mother imparted the treasure of her wisdom:

Clio was the Muse of history,
Calliope, of epic poetry,
Melpomene, of tragedy,
Thalia, of comedy,
Polyhymnia, of eloquence,
Urania, of astronomy,
Euterpe, of the flute,
Terpsichore, of the dance,
Erato, of song.

The Sirens were represented as monsters, who appeared from the waist upward like beautiful females; they attempted to rival the Muses, but the songs of the former were false and seductive, while those of the latter were true, and led to virtue. Cupid, the son of Venus, was the god of love; he was a beautiful blind boy, generally represented as holding in his hand a bow and arrows.

The Graces were Aglaia, Thalia, and Euphrosyne; they were sent to mortals to inspire kind and agreeable feelings; without their aid, beauty itself was considered incapable of commanding homage. They were represented as three sisters, who, in their various attitudes, expressed every variety of personal dignity and elegant motion; exemplifying by their union the tender emotions of love, friendship, and kindness.

Rural Deities.—These were *Nymphs,* or beautiful creatures who presided over the springs and fountains, the forests and hills; to each of these was supposed to belong its living and animating spirit. The Naiad sat at the fountain pouring forth the warbling brook from her pitcher. The Dryads animated the solemn gloom of the forests, while the Hamadryed was confined to her individual tree. In the felling of each tree, it was supposed its wood-nymph perished.

The Satyrs and Fawns, formed a connecting link between man and the brute creation, having the semblance of a human being, united to the horns and feet of a goat; they were followers of Bacchus.

Pan was the principal of the rural deities. He invented the reed, or the shepherd's flute. He was feared by herdsmen and shepherds, who ascribed all unusual inexplicable sounds to Pan; hence it is said the term panic-struck was derived.

Among the Romans every family had its tutelary divinity. Terminus was the guardian of landmarks; Pales, the goddess of shepherds; Flora, of flowers; Pomona, of fruits; Comus, of wit; Momus, of sarcasm; Hymen, of marriage; Orpheus, of music; Æsculapius, of medicine; Hygeia, of health.

Among the favorites of the gods was Ganymede, a descendant of Dardanus, the founder of Troy; he was the most beautiful of men, and was chosen by Jupiter to bear nectar to the gods. Hebe, the former cup-bearer, having been careless enough to fall when performing this office, was considered too ungraceful to serve at the table of the gods.

Of the thirty thousand deities, said to have been recognised by the Grecian mythology, we have named only those who are most frequently alluded to by the poets. From the quotations we have made from Virgil, (and these might have been greatly multiplied,) you will see that the Æneid, without some knowledge of these fictions, would be divested of much of its interest, and indeed would not be understood in many of its passages.

Miss Edgeworth remarks, "Classical poetry without the knowledge of mythology is unintelligible. Divested of the charms of poetry, and considered without classical prepossession, mythology presents a system of crimes and absurdities, which no allegorical, metaphysical, or literal interpreters of modern times, can perfectly reconcile to common sense, or common morality; but our poets have naturalized ancient fables, so that mythology is become essential to modern literature. The associations of taste, though arbitrary, are not easily changed in a nation, whose literature has attained to a certain pitch of refinement, and whose critical judgments must, consequently, have been for some generations traditional. There are subjects of popular allusion, which poets and orators regard as common property; to dispossess them of these seems impracticable, after time has sanctioned the prescriptive right."

I shall now gladly turn from the episode with which I have indulged you, to subjects of deeper interest than mythological fable. In our next lecture we will consider those studies which have for their object, the *real existences*, with which the great Author of our own being has surrounded us.

How sublime do the truths of revealed religion appear, when contrasted with those fables which the heathen poets thought worthy of so much pomp of language! "I am the Lord, and there is no God beside me," is the language of "the High and Holy One who inhabiteth eternity." He needeth no long train of subordinate agents to accomplish his purposes: "He speaks and it is done!"

"The earth is the Lord's, and the fullness thereof."—It is this fullness, those works which their Creator pronounced "good," that, in the study of Natural Science, we are led to examine, to analyze into their original elements, and arrange according to their various relations, and the laws of that most wonderful of the Almighty's works, the human mind.

LECTURE XVII.

Natural Science, Astronomy, Natural Philosophy.

The erroneous opinions which have prevailed with respect to education, appear nowhere in a more striking light, than in the neglect with which *nature* has been treated, by those who aspired to teach useful knowledge, and to bring forward the young, fitted for the duties of life. Books in abundance were given them, and a knowledge of their contents was considered a sufficient preparation for the world into which they were about to enter. How wonderful that the *great book of nature* should have been passed unheeded,—that the air they breathed, the water they drank, the fire that warmed them, the stones beneath their feet, the mountain masses, the glittering mineral and beautiful flowers, the noble animals and the little insects, the pearly treasures of the ocean and streamlet—how wonderful that all these should have been thought proper objects of their study!

There have, indeed, ever been some lovers of nature, who have sought to penetrate her mysteries, and unfold her laws; but the generality of students in our popular schools, have, it might seem, almost studiously been kept ignorant of those mysteries and laws; ignorant of their very existence. A plant was seen simply as a thing ornamental, useful, or noxious. The idea of its relation to other plants, to the atmosphere, soil, and light; of its being a part in the vast series of creation, never was suggested during my own school education; all subjects connected with natural science being kept out of view, in female academies, as much as alchymy or heraldry now are.

Natural philosophy, in the form of a little catechism, was indeed introduced, but it was wholly a matter of faith; the idea that any thing contained in the book could be proved by experiment, could be made manifest to our ears and eyes, never presented itself. Chemistry, when first taught in female schools, was only theoretical. It was, indeed, a hard task to learn by heart, without the least idea of their properties, long lists of hard names—to remember that air was composed of oxygen and nitrogen, and water of oxygen and hydrogen. Of the real existence of these substances, we had as little conception as of the monster Chimera, or any other fabulous creation. The subject of chemical analysis can indeed only be comprehended by the assistance of the senses.

At the present time, natural science is receiving, by those who superintend the education of youth, that attention which it so deservedly merits. The term Natural Science signifies a knowledge of nature, and, thus comprehensive, it includes not only the consideration of all substances upon the globe and the atmosphere around it, but of the heavenly bodies. This general science of nature is also termed *physics*—a word derived from *phusis*, *nature*. Under the head of Natural Science, according to the definition just given, may be ranked its subdivisions, Astronomy, Natural Philosophy, Chemistry, Natural History. Under Natural History are its subdivisions, Zoology, Botany, and Mineralogy; and under the latter is the subordinate branch, Geology.

Astronomy.—Astronomy is a term derived from *aster*, a star, and *nomos*, a Greek word, signifying name. We have made some allusions to this science under the head of geography, and our time will not permit us to dwell with minuteness on each branch of study, however interesting and important.

There is certainly no science which seems more calculated to exalt the soul, and fill it with sublime conceptions of the great Author of nature, than astronomy. The mere sight of the heavenly bodies, without any knowledge of the regularity of their motions; the uniformity of the laws which govern these motions; the vast distances which separate these bodies, and yet their relations to each other: I say, the mere sight of the heavens, without any knowledge of all this, is sufficient to inspire the human soul with wonder and admiration; but when science unfolds her discoveries, then truly does man stand abashed before Him, who "sitteth in the circle of the heavens, who made heaven and the heaven of heavens with all their host, who preservest them all, and by whom he is worshiped." In the words of an elegant writer,* a serious contemplation of the sublime objects which astronomy has explored, must, therefore, have a tendency to inspire us with profound veneration of the Eternal Jehovah,—to humble us in the dust before his august presence—to excite admiration of his condescension and grace in the work of redemption,—to show us the littleness of this world, and the insignificance of those riches and honors to which ambitious men aspire with so much labor and anxiety of mind,—to demonstrate the glory and magnificence of God's universal kingdom,—to convince us of the infinite sources of varied felicity which he has in his power to communicate to holy intelligences,—to enliven our hopes of the splendors of the "exceeding great and eternal weight of glory," which will burst upon the spirits of good men, when they pass from this region of mortality,—and to induce us to aspire with more lively ardor after that heavenly world, where the glories of the Deity and the magnificence of his works will be more clearly unfolded.

Natural Philosophy.—From the consideration of the heavens, we descend to those branches of the study of nature which relate to the globe, with the objects upon its surface, and the atmosphere around it. "Natural Philosohy acquaints us with the general properties and mechancal laws of bodies, the physical laws of attraction, light, nd electricity: it is founded on observation and experinent, and derives important assistance from mathematical cience."* Taking this definition for our guide, we will riefly consider some of the many subjects embraced in his comprehensive science.

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* Thomas Dick.

The general properties of bodies.—Our knowledge of he properties of matter depends wholly on our senses; nd when we say that it has a certain number of properies, we should always consider that this number is only elative to our senses. Take from man the sense of vision, nd he would have no idea of color, as a property of natter; take away the sense of touch and muscular ower, and he would have no conception of hardness or oftness, as a property of matter. So of our other senses, he loss of any one of which, would abridge matter of some f the properties that we now ascribe to it.

But suppose, on the other hand, that a new sense were dded to man; is it not probable that he would perceive ew qualities in matter, such as his "philosophy has never et dreamed of?" We see then how limited is our knowedge of the material world. The mind has its five serants, the senses, to labor in the great work of finding out he mechanism of a world; and the sphere of their operaions is so limited and circumscribed, that there are proably in nature, kingdoms and provinces which they have o power to enter, and which are to them wholly unpereived.

How august, how mysterious, appears the world of matter around us, when considered in this light! and how does the enumeration of the few properties, which our philosophy ascribes to it, strike us with a sense of our own limited faculties, which perceive so little of the rich variety, the stupendous majesty of the external world! And yet we know much—for though our list of the properties of matter be small, the various, and almost infinite relations of each one of these properties, is truly astonishing.

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* See the author's Dictionary of Chemistry, p. 11.

Matter is known to us only through the medium of the mind, as affected by the senses. We call that *body*, *matter*, or *material substance*, which can affect one or more of our senses. The sight, touch, hearing, taste, and smell, are all called upon to give the mind knowledge of the existence of matter, and the impossibility of supposing an effect without a cause, renders the existence of the cause which acts upon our senses, as certain as the existence of the senses which are acted upon.*

How far matter extends, is a subject on which philosophy is still as much in doubt, as in the commencement of her researches. Newton discovered the principle of *gravitation*, and on the supposition of its existence, explained the relation of the planets, and various other phenomena of nature. But what gravitation is, philosophy has not presumed to explain. The fragrance of a body, we know to be minute particles of the body itself, which, diffusing itself into the atmosphere, reach our organs of smelling, and thus produce a certain effect on the mind, which is termed a sensation. Is gravitation a subtle yet powerful fluid, emanating from one body and drawing another towards it? Is it material? Or, if not, what unknown, secret sympathy can actuate masses of inert matter, causing them to rush towards each other in a cold and dead embrace? These things are suggested, not with a view to confuse your minds, or to lead you to think that all philosophy is but speculation, all science a collection of enigmas. But there are questions in science, which are vain and useless; questions that have occupied, to no purpose, the time and talents of those who desired to benefit the world. Lord Bacon observed, that there was more true philosophy to be found in the workshops than in the schools; in the former, all was practical; in the latter, utility was sacrificed to speculation.

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* Dr. Brown supposes that of all our senses, none but that of touch, aided by muscular action, could give us an idea of an external world. "With no sense but that of smell," he says, "the fragrance of a rose would appear but as a pleasant feeling, springing up spontaneously in the mind. Music, or sounds of any kind, with the sense of hearing only, would give us no idea of any thing without ourselves. Taste, separated from the tactual feeling, would not suggest an external object; even vision, he thinks, would but paint upon the retina of the eye an indistinct mass of color without figure, or without informing the mind of the existence of an external object." But, according to Dr. Brown, the muscular sense is the key which unlocks the mysteries of the world without us, and renders our other senses of use. We may go along with Dr. Brown through the consideration of the senses of smell, hearing, and even taste; but when he would deny the power of unaided vision, to suggest an external object, we feel that he is drawing too largely upon our credulity, and suspicions being awakened of the legitimacy of his reasonings, we are inclined to take back the assent we yielded to the first of his assertions, with respect to the independent agency of each sense in teaching the existence of matter.

Yet there are now certain principles established in science which are subject to no fluctuations, and which afford a firm basis for future discoveries. Questions as to the *essence of matter*, the *secret springs of the machinery of the universe*, and the *first causes of things*, are, by common consent, exploded as profitless and unfathomable. To watch nature in her operations, to note the processes by which these operations are carried on, and, from particular cases to form general conclusions, is now the professed aim of men of science. Important applications are thus made of principles discovered, which tend to advance the improvement and happiness of society.

The subjects embraced by the science of Natural Philosophy are numerous, and highly important. *Mechanics* investigates the laws of gravitation, as they operate in the different phenomena of motion and of central forces. It considers the theory of machines, the properties of the mechanical powers, with the principles on which they are made to operate, and the effects to be produced. From this branch of Natural Philosophy have originated some of the most wonderful discoveries and inventions which mark the history of man. Agriculture, manufactures, architecture, navigation, the fine arts, and even the sciences themselves, owe to mechanical philosophy the instruments by which they are severally enabled to carry on their operations. It is the mainspring in social and civilized life; and he who discovers a new principle in mechanics, or a new application of a previously discovered principle, is more useful to the world, than he who writes volumes of idle hypotheses, however rich or fascinating the language in which they are communicated. "Happy he, whose name descends to posterity as the author of a useful invention, or the discoverer of a new principle. We cannot honor too much the man, who opens a new career of knowledge to the human mind. The difficulty of the first discovery is always the greatest; and the merit of inventing is always greater than that of perfecting; as in total darkness it is more difficult to strike a light, than to kindle others by the flame of the first."*

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* *Encyclopedie Portative.*

Hydrostatics, treats of the pressure and equilibrium of water; the term is derived from the Greek, *hudor*, water, nd *stat*, a derivation from the Latin verb *to stand.*

Hydraulics, derived from *hudor*, water, and *aulos*, a pipe, is a branch of hydrostatics, and signifies the science f conveying water by pipes.

Pneumatics, from *pneuma*, air, and *mathesis*, learning, reats of the nature and properties of the atmosphere.

Acoustics, from *akouo*, I hear, treats of sound, its laws, and the various phenomena connected with it.

Optics, from *ops*, the eye, treats of vision, and the aws which govern the transmission and reflection of light.

Electricity, was so named from its having been discovered in amber, which in Greek is called *electron*. This science explains the operations of one of the most wonderful, and all-pervading principles in nature. The electric fluid appears to be diffused as extensively as matter itself, and to operate not only in the terrific phenomenon of lightning, but to be active in some of the most silent and gradual changes in nature. Chemical attraction has of late been suspected to be owing to a union of the negative and positive electricities, and even the physiology of organized life has been thought to bear some mysterious relation to the electric fluid.

Galvanism, so named from Galvani, the discoverer, is considered as a modification of electricity, differing however in this circumstance, that in the former, the effects are mostly produced by the *chemical action* of bodies upon each other, while in the latter, the effects seem to be more the result of *mechanical action.*

Magnetism. This singular principle resides in the loadstone, or the *deutoxide of iron*. The magnet is known by its property of attracting steel and iron. It is an iron ore, composed of 72 parts of metal, and 28 of oxygen. A fragment of this metal, if placed upon a pivot, always points to the north and south, being always provided with two poles: opposite poles of two magnets attract, while similar poles repel each other. The most important use of the magnet is, the certainty with which it guides the mariner through the trackless ocean; and were this the only advantage to be derived from its discovery, the benefits would be incalculable. The magnetic fluid appears to have an intimate connection with electricity and galvanism, as those have with light and heat: it has been suggested that all these agents are but modifications of one great principle.*

Sketch of the History of Natural Philosophy.

Having now remarked, in a very general manner, upon the subjects embraced under Natural Philosophy, we will glance at the origin and progress of this science. The ancient philosophers, in their schools, considered, without any reference to their different objects, the various kinds of knowledge. They united natural, with moral philosophy. Their progress in the latter science was much greater than in the former.

Thales, one of the seven wise men of Greece, who lived four hundred years before Christ, was the founder of the Ionian school of philosophy. He is the most ancient of the Greek philosophers who applied themselves to the tudy of nature; he explained eclipses, discovered electriity in amber, and made some important experiments.

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* Electricity, Galvanism, and Magnetism, are usually treated of under the head of Chemistry, as well as Natural Philosophy: indeed, some chemists have been led to conjecture that all chemical decomposition is performed by the agency of the opposite electricities.

Pythagoras, one hundred years after Thales, in his chool, rendered illustrious by the discovery of the true sysem of the earth, taught something of the theory of sounds, nd other subjects connected with natural philosophy ; but s he built theories upon hypothesis and not experiment, othing practical was added by him to the science. He is elebrated for having suggested the true theory of the arth, afterwards revived by Copernicus.

Democritus, four hundred seventy years before Christ, mployed himself in the study of Mechanical Philosophy ; e suggested the atomic theory of bodies; viz. that all odies consisted of certain minute parts, or *atoms,* which vere indivisible ; these were called *ultimate atoms.* Denocritus was considered as guilty of contempt towards nan, because he occupied himself more in the study of *natter* than *mind.* His works being lost, all that contined to be known on the subject of natural philosophy, was vhat related to certain of the arts, such as the working of netals. It was thought beneath the dignity of science to lescend to what was merely useful. Plato reproached geonetry for descending to assist the necessities of man.

Aristotle, whose name has been held in almost idolarous reverence by the followers of science, seems not to ave arrived at any general principles by his manner of nvestigating. His facts were insulated and incomplete, nd appear not to have suggested any means of generaliing ; indeed his metaphysical ideas were averse to genralization. Thus we find the progress of physics retardd by the false views then entertained of the nature of he mind. The science founded on facts is comparatively of modern origin ; the laws of science derived from the comparison of well established facts, are still more recent.

Archimedes, of Syracuse, flourished about two hundred fifty years before Christ. He united to the most profound knowledge of mathematics, a close observation of natural phenomena, and an uncommon genius for investigation. He discovered the manner of ascertaining the specific gravity of bodies, by weighing them in water ; experimented upon solar rays by concentrating them to a focus, and made many observations upon the refraction of light. This philosopher seemed intuitively to conceive that the proper method of philosophizing was to collect facts, to combine them, and thus establish general laws—that afterwards, by applying these laws to nature, a new mode of discovery might be obtained, leaving it to future experience to prove the theories thus suggested.

After Archimedes, no genuine student of nature appears in a long career of ages :—as men had before seemed to want science, science now wanted men. And until Bacon and Galileo, in the seventeenth century, nothing of importance was added to physical science. Bacon did not indeed add to science by any actual discoveries, but he pointed out the mode by which investigations should be conducted, in order that advances might be made. Experiment and observation, were, by him, considered the only sure routes to an accurate knowledge of nature.

Galileo about this time made an accurate calculation of the ratio of falling bodies, giving the first application of mathematics to physics. Torricelli, the pupil of Galileo, invented the barometer ; Bayle invented the air-pump. The scientific societies of London and Paris were founded, encouragement was offered for discoveries, and new works were published ;—at length science was enlightened with the discoveries of Newton. The methods of observation and calculation of this great man, have been followed by later philosophers, and even the ability to comprehend his works, has been considered a proof of high intellectual powers. The influence of this one individual in all the sciences of observation would be a subject worthy of interest ; if we add to his own discoveries, those which he suggested, and the improvements which these have produced in other sciences, we can form some idea of the *vast influence which one great mind may exercise upon the knowledge, virtue, and happiness of the world.*

Since the time of Newton, many important discoveries have been made in mechanical philosophy. The arts of steam navigation, construction of railroads, &c. are at this period effecting a change in the future condition of the world, greater than we at present can conceive ; and the improvements which may arise upon those already made, are beyond the utmost stretch of imagination.

Before closing our remarks on the study of Natural Philosophy, permit me to remind you, that this is emphatically *a science of facts.* While pursuing it, turn your thoughts to the real appearances of nature around you ; consider the knowledge of books as nothing, but as it serves to explain the changes which are constantly taking place. If you enter a mechanic's shop, examine the implements, machinery, or mode of operation, with a view to the application of your theoretical knowledge. Do not scorn to listen to the most simple account of mechanical operations ; they are carried on by principles, which you have learned from books, and which the mechanic, though ignorant of science, understands practically. If you are travelling in a steamboat or upon a railroad, make yourselves acquainted with the principles by which the motion is produced, or which are involved in the construction of the machinery; or if you understand these principles, do not fail to notice whenever you see them practically illustrated.

Our sex have, in general, far less observation than the other. We incline too much to live in the little world of our own thoughts. Let two young persons of different sexes, unaccustomed to travelling, find themselves for the first time, on board a ship or a steamboat. The female probably occupies herself with thoughts of the friends from whom she has parted, or of those whom she expects to meet; memory and imagination are busy, but her powers of observation slumber, unless perhaps exercised in noticing the dresses of those around her, their peculiarities of manners, and probable standing in society. The young man, very likely, examines the construction of the ship, or steamboat, its size, the velocity with which it moves, and the scenery which presents itself.

I am far from asserting that there is always this difference in the operations of the mind in the sexes; for there are females of close observation upon works of art and nature, and men who observe superficially. The study of Natural Science tends to produce habits of observation, and in this respect, as well as its general tendency to enlarge the mind, and to render life more happy, and more correspondent to the dignity of our nature, is deserving the attention of females.

LECTURE XVIII.

Chemistry.—History of Chemistry.

THE science of Chemistry is of peculiar interest to our sex; its applications to domestic economy are numerous and important. These applications are, however, but little understood; the reason of this is, that chemists are not housekeepers, and housekeepers are not chemists. The various processes in culinary operations are mostly performed on chemical principles, yet those principles are seldom known, or thought of, by those who perform the operations. I am aware that many a good housewife might smile at my remarks, and say, she would not exchange her *experience*, for all the *theories* which chemistry can give. It is very true that your excellent mothers and grandmothers may possess that experience in domestic concerns, which enables them to perform complicated operations with ease and safety; but even they, I think, would delight to understand the causes of effects, which they have been, for so many years, witnessing, and agents in producing.

For instance, no article is in more common use in housekeeping than pearlash. In making some kinds of cake, this is used to render it light. The common method is, to put vinegar into the pearlash, and while it is effervescing, to add it to the other materials.

But why does pearlash make cake light? If you were to inquire thus of many women, they would conceive it to be a " foolish question :" they would say, perhaps, "because "*it is natural*," or, "*because it does.*" I would not unnecessarily expose a weakness of my sex; but we are quite too apt to give for a reason, that which is no reason at all.

The simple explanation of the process above-mentioned is this ; pearlash is a *carbonate of potash*, or *potash* united to *carbonic acid;* vinegar contains a peculiar acid called *acetic acid;* for this acid, potash has a greater affinity than for carbonic acid. When vinegar is added to carbonate of potash, the potash, choosing the acetic acid of the vinegar, begins to expel the carbonic acid; this produces an effervescence; the effervescing mass being added to the flour, the carbonic acid, in the form of little bubbles of air, instead of passing into the atmosphere, becomes entangled in the gluten of the flour, swells it out, and thus makes the cake light. The potash forms with the acetic acid the new combination, *acetate of potash.*

When bread is suffered to rise, or ferment too long, the *acetous*, or souring fermentation begins, and the dough becomes sour. In order to remedy this, a solution of pearlash (carbonate of potash) is introduced; the acetic acid, which causes the sourness, is absorbed by the pearlash, and the carbonic acid of the pearlash is set free. This, escaping in the form of little air bubbles, increases the lightness of the dough.

You will perceive, from the examples now given, that chemistry is a science which is intimately connected with the peculiar business of women. But, as I have already remarked, its applications to domestic operations, although numerous and important, are yet far from being as extensive as we might expect, from the perfection which chemistry has attained. It is to be hoped that, as educated women engage in the duties of housewifery, culinary chemistry will receive more attention than it has heretofore done.

I shall now proceed to give a general view of chemical science, with an outline of its history. In doing this, I shall refer to my Dictionary of Chemistry, which contains articles prepared in accordance with my present views of the manner in which these subjects may profitably be presented to the mind. Where the pupil already has a knowledge of the science, such outlines are highly useful in condensing and systematizing what is learned; when the subject is new, sketches may excite sufficient curiosity and interest to lead the mind to desire more information. It was, indeed, when engaged in writing the work from which I am about to make some quotations, that the thought first occurred to me of the benefits which you might derive from similar sketches of the leading principles, histories, and practical applications, of the various branches of female education.*

Chemistry is a science no less elevated in its general views than various in its applications; its object is to examine the *elements* or *first principles* of substances, and their laws of combinations; its application to other sciences, to arts, medicine, manufactures and housewifery, are numerous and important. It may be divided into *organic* and *inorganic* chemistry.

Organic Chemistry is confined to the investigation of the elements of vegetable and animal substances, and the laws which govern their combinations. This department, including the whole of animal and vegetable poisons, and their antidotes, is intimately connected with the study of medicine. The same elements, differently proportioned and combined, constitute all organic and inorganic substances.

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* The remainder of the Lecture on Chemistry is an extract from the author's Dictionary of Chemistry, published by Messrs. Carvill, of New-York.

Inorganic Chemistry includes the study of the elements of all matter confined to the combination of these elements in inorganic bodies. The ancients conceived that there were but *four elements*, or first principles, viz. *earth*, *air*, *fire*, and *water*. Chemistry has shown that all these substances, except fire, (the nature of which is still doubtful,) are compound; *air* is composed of two gases, called oxygen and nitrogen; *water*, of oxygen and hydrogen; and *earth* of a variety of substances, which in their turn may be decomposed.

Nature offers substances in four different states, *solid*, *liquid*, *gaseous*, or aëriform, and *imponderable*, or such agents as are not known to possess weight. All matter is composed of *molecules*, particles, or atoms; these are subject to two opposing laws—the *force of attraction*, which tends to keep the atoms in contact, and that of *caloric*, or heat, which separates or repels them.

Simple substances, are those whose atoms are *homogeneous*, or of the same nature. Thus zinc, is considered as a simple substance, because it contains no other atoms than those of zinc.

Compound substances, are such as contain two or more simple elements; thus, brass is a compound body, which on being decomposed is found to contain atoms of zinc and copper. The particles which constitute a simple body are called *integrant molecules*, and the force which keeps them together is called *cohesion*. The particles which form a compound substance, are called *constituent molecules*, and the force which unites them is termed *affinity*. Thus, zinc is formed of integrant molecules united by the force of cohesion, and brass is formed of constituent molecules united by the force of affinity.

Affinity.—Affinity is that kind of attraction which unites the *heterogeneous molecules*, or atoms of *compound bodies*. A knowledge of chemical affinity is very important in investigating chemical changes ; the first consequence of this law is a *change of state* of the bodies ; thus the union of two gases, oxygen and hydrogen, produces water. A second and important consequence is a *change of the property*, of the new substance ; thus from the combination of an acid and an alkali, possessing opposite properties, results a salt, resembling neither of the original substances. It is at present believed by most chemists, that chemical affinity depends essentially upon the electrical state of the substances ; that electricity is divided into two fluids, the one *positive*, the other *negative ;* and that molecules of the same kind of electricity repel, while those of opposite electricities attract each other.

Theory of Atoms. By atoms or particles are understood parts incapable of division or diminution ; much precision is given to the science of chemistry by admitting that bodies consist of atoms which unite in certain proportions ; thus, in water, we suppose two atoms of hydrogen united to one of oxygen ; or, which is the same thing, two hundred atoms of the former, to one hundred of the latter. The theory of the proportions between the elements of bodies is not hypothetical, but in many cases has been proved by experiment; thus the following proportions are universally observed:

200 atoms of hydrogen and 100 of oxygen= water.
300 " " " " " 100 " nitrogen= ammoniacal gas.
100 " " ammonia " 50 " carbon= salt of ammonia.
100 " " nitrogen " 50 " oxygen= protoxyde of nitrogen.
100 " " " " " 100 " = deutoxide of "
100 " " " " " 150 " = nitrous acid.
100 ' " " " " 250 " = nitric acid.

Simple Elements.—The number of simple elements admitted by chemists, must vary with the progress of the science; such substances as no chemical force can decompose are called simple; many which are thus named, will, no doubt, in process of time be decomposed, while other elements, now unknown, will be brought to light, and found to be important agents in chemical changes.

Instead of the four elements of the ancients, chemists at present admit more than 50 elementary bodies, if we include the imponderable agents, chlorine, and some other analogous substances; and the newly discovered bodies, *bromine*, *pluranium*, and *thorium*.

These may be comprehended under two grand divisions; I. *Imponderable agents*, or such as have no known weight; as

Caloric,
Light,
Electricity,
Magnetism.

II. *Ponderable bodies*, or such as have known weight; these may be divided into four classes. Class 1. *Supporters of Combustion;* as oxygen, &c. Class 2. *Combustibles* not *metallic;* as hydrogen, &c. Class 3. *Metalloids;* as silicon the base of silex, calcium of lime, &c. Class 4. *Metals;* as gold, silver, &c.

Language of Chemistry.—Among the most important chemical agents is *oxygen*, the discovery of which wholly changed the aspect of the science, and gave rise to our present nomenclature, or names of substances. The term *combustible*, considered as synonymous with *oxygenable*, is applied to all simple substances which can be made to unite with oxygen: this union is accompanied with a disengagement of caloric or heat, (though in some cases imperceptible,) and often of light; the substance which has thus united with oxygen is said to be *burnt*, or *oxygenated*.

The compounds which result from the union of oxygen with simple bodies have received the name of *oxides* and *acids*. When oxygen unites with a body only in *one proportion*, forming either an oxide or an acid, the substance with which it combines is termed its *radical;* as in the *oxide of zinc;* here zinc is the radical or base of the oxide. If the oxygen combines in *two or three proportions*, the first oxide is called *protoxide*, the second *deutoxide*, the third *tritoxide*. When a body is oxidized in the highest degree, it is termed the *peroxide;* for example, the combinations of oxygen and manganese, which present us with all these varieties of oxides.

A similar rules governs with respect to the names of acids; if the oxygen forms but one acid, to its radical is added the termination *ic*, as boracic acid. But if oxygen combines in several proportions, the lowest proportion is expressed by *ous*, and the highest by *ic*, as sulphurous and sulphuric acids; to these terminations, are also added *hyper*, which signifies more, and *hypo*, less; thus hyposulphurous denotes a body possessing a less quantity of oxygen than sulphurous acid, &c.

Oxygen is not the only agent which unites to combustible bodies to produce acids; hydrogen, chlorine, with some other substances, possess this property; thus we have *hydrochloric*, and *hydriodic acids*, resulting from the union of *hydrogen* with *chlorine* and *iodine*.

When two binary,* burnt substances combine, a new compound results, which, when the constituents are an acid and a metallic oxide, is called a *salt*. The salts are very numerous; they are named by varying the termination of their acid; when the acid terminates in *ous* and *ic*, the salts end in *ite* and *ate;* thus by the term *sulphate of tin*, we understand the combination of tin with *sulphuric* acid; *sulphite of tin* expresses the combination of the metal with *sulphurous* acid.

IMPONDERABLE AGENTS.—1. *Caloric.* It would not be possible to explain the sensation of heat to one who never experienced it, any more than we could, by words, give to the blind an idea of colors, or to the deaf, of sounds. A person says, "*I am warm*," or extending his hand to a fire, says "*the fire is hot;*" in the first case he properly expresses *the sensation of heat;* in the second, the *cause of this sensation.* The fire itself is not supposed to be hot, but only to possess the property of producing in the animal system, the sensation of heat. The *cause of heat* is distinguished by the term, *caloric.*

2. *Light*, as is well known, proceeds from the sun and the fixed stars, as *direct sources;* from the moon and other planets by *reflection*, and from various terrestrial substances, while experiencing combustion, from phosphores-

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* The term *binary* is derived from *bis*, two; a binary compound is one in which but two elements are united; a *ternary* compound consists of three elements; a *quaternary* of four, &c.

cent matter, &c. The nature of light and caloric is at present unknown; from the intimate connection between them, they have, by some, been considered only as modifications of the same substance.

Among the most important properties of caloric are, 1, its tendency to an equilibrium; 2, its power of dilating bodies; 3, its susceptibility of being reflected from one body to another; 4, its power of increasing chemical action.

3. *Electricity.*—From whence arises the peculiar sensation which is experienced when a piece of zinc, placed upon the tongue, is brought in contact with a piece of copper placed under this organ? What power was that which, under the eyes of Galvani, animated the limbs of a dead frog, when two metals, placed at the extremity of a naked nerve, were made to communicate by means of a metallic wire? What dazzling brilliancy flashes in the skies, or darts downward upon earth, fraught with terror and destruction? It is the *electric fluid.* But what is the nature of this fluid which divides the material world into two great masses, the *positively* and *negatively electrified?* Is it simple or compound? Why is its presence so uniformly accompanied with light and heat? Are light and caloric any thing more than modifications of this fluid, and is not electricity indeed the union of these two substances? Electricity, whatever it may be in itself, exercises an important influence in chemical changes. The instrument called the *voltaic pile,* causes the decomposition of a compound body, which is submitted to its action; the elements possessing the *positive electricity,* go to the *negative pole,** and those which have the *negative electricity* go to the positive pole of the pile.

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* The two extremities of a voltaic battery are called *poles;* this

4. The *magnetic fluid* gives to a mineral called the loadstone, (deutoxide of iron,) the property of directing its two extremities, either to the north or south pole of the earth; of attracting by its northern extremity the southern extremity of another magnet, while it repels its northern extremity or pole. It has recently been discovered that the magnetic needle changes its direction under the influence of the voltaic pile; that the conducting wires communicate magnetic properties to steel and iron wires. It has therefore been conjectured that magnetic attraction is but another modification of electricity. If these suggestions are founded in truth, we may perhaps regard all the imponderable agents as the result of one grand agent.

PONDERABLE SUBSTANCES.

Class 1. *Supporters of Combustion.*—All substances upon the globe, except those already described under the head of imponderables, are known to possess weight; the specific gravity even of the lightest gases have been ascertained. After the discovery of oxygen, this gas was for some time considered as the only supporter of combustion, or the only substance which, by uniting with others, could produce the phenomena of combustion. At present *four* other analogous substances are ranked with oxygen, viz. *chlorine*, *iodine*, *fluorine*, and *bromine*. When any one of these substances, existing in a binary compound, is submitted to the action of the voltaic pile, the supporter of combustion goes to the positive, and the combustible to the negative pole.

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instrument was first called the Galvanic battery, from Galvani; afterwards, on being modified by Volta, it received its present name.

1. ***Oxygen*** unites with almost all substances, forming acid and oxide compounds; its name is derived from the Greek, and signifies to generate oxides; these and most of the acids being under the influence of this agent. Its properties are very numerous, since its combinations exist in most bodies in the three kingdoms of nature. It has been observed by a celebrated chemist, that "*Oxygen may be considered as the central point, around which chemistry revolves.*"

The phenomena of combustion bear an intimate relation to oxygen; so that the slightest union of this gas with another substance, although neither accompanied with sensible heat or light, is considered as a low degree of combustion. Stahl supposed that the fire exhibited in combustion was occasioned by the loss of an imaginary substance, which he termed *phlogiston*, or the principle of heat. Lavoisier proved the materiality of ogygen, by showing that it was absorbed by the burnt substance; but neither of them accounted for the heat produced at the moment of combustion, nor for the luminous appearance or flame which accompanied it.

By observing the usual circumstances of kindling a fire, we perceive that the temperature of the combustible body is first increased by a borrowed heat. Now it is known that electricity is developed by an increase of heat, and that a union of the two electric fluids causes an elevation of temperature: thus, when the caloric is first added, the two electricities are brought forth; the negative from the oxygen, and the positive from the combustible substance; and the union of these two electricities is supposed to produce the heat which attends combustion. When we assist combustion by the action of the bellows, we direct a current of

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air upon the combustible substance; the oxygen being impelled upon its surface, the fire becomes more intense. By repeating the action of the bellows, we successively elevate the temperature, until the combination of the two electricities is sufficiently energetic to give rise to *flame.* The importance of oxygen as a supporter of combustion, is manifested by various experiments; even metals inflame and burn spontaneously in this gas.

2. *Chlorine* was formerly called *oxymuriatic acid,* from its supposed constituents, *oxygen* and *muriatic acid.* It is at present, by the French, and most English chemists, regarded as a simple substance; and muriatic acid is now called *hydrochloric acid,* being, as it is supposed, a combination of *hydrogen* and *chlorine.* Chlorine may be obtained by heating the pulverized peroxide of manganese with hydrochloric acid; the hydrogen of the latter uniting with the oxygen furnished by the manganese, disengages its chlorine in the form of a yellowish-green gas. Chlorine forms with oxygen several acids, as *chloric, oxygenated chloric,* &c. Its union with metals produces *chlorides;* these dissolved in water are *hydro-chlorides.*

3. Iodine, at the common temperature, exists in a solid form; its color is a bluish gray; by heat it becomes a violet-colored gas; it forms with oxygen, *iodic acid,* and with hydrogen, *hydriodic acid;* combined with sulphur phosphorus, and with metals, it forms *iodides.* Iodine is obtained from sea-weeds, mineral waters, minerals and sponge.

4. Fluorine is considered as the base of fluoric acid, but as its actual existence has not been proved, it must be regarded in the light of an imaginary substance. Whether fluoric acid consists of oxygen united to the combusti-

ble base, fluorine, or whether, as is supposed by some, this base is united to hydrogen, (hence the term *hydro-fluoric*, instead of fluoric acid,) seems not yet determined. This acid united to lime, constitutes the *fluate of lime*, or the beautiful Derbyshire spar: with other bases it forms various *fluates*.

5. Bromine, which has been recently discovered and added to the list of simple substances, is obtained from sea-water and the ashes of the same marine plants that furnish iodine; it is a dark red liquid, so volatile as at the common temperature to throw off red vapors; with oxygen it forms *bromic acid*, which, uniting with various bases, forms *bromates* and *bromides*.

Combustible Substances.—Combustible substances are such as possess the property of uniting with oxygen and other supporters of combustion to form *oxides* and *acids*; they may be divided into the following classes:

COMBUSTIBLES NOT METALLIC.
METALLOIDS.
METALS.

PONDERABLE SUBSTANCES.

Class 2. Combustibles not Metallic.

1. Hydrogen is a term derived fron the Greek, signifying to produce water, because this liquid is formed by the combination of hydrogen with oxygen: in the language of chemistry, water is the *protoxide of hydrogen*; (or hydrogen with one proportion of oxygen;) when another proportion of oxygen is added, it becomes a *deutoxide of hydrogen*, or oxygenated water. Hydrogen combined with oxygen and carbon exists in all vegetable matter; by the addition of

nitrogen we have the constituents of animal substances. Hydrogen forms acids known by the general name of *hydracids;* with chlorine it forms hydrochloric, with iodine, hydriodic acids, &c. With sulphur, carbon, &c., it forms sulphuretted hydrogen, or hydrosulphuric acid, carburetted hydrogen, &c. It is highly combustible, and burns with much flame, furnishing, by its union with carbon, the gas used in cities for lighting streets, shops, &c. On account of its being specifically lighter than atmospheric air, it is used for inflating balloons.

2. *Boron,* combined with oxygen, constitutes the base of *boracic acid;* it is by the decomposition of this acid that boron is obtained, it being never found pure in nature.

3. *Carbon,* when pure and crystallized, constitutes the diamond: it exists in charcoal with hydrogen, salts, and other products of combustion, and may be obtained from this combustion. Many attempts have been made to crystallize carbon, in order to obtain diamonds, but hitherto none have been successful. With a certain proportion of oxygen, carbon forms *carbonic acid;* with a less proportion of oxygen, the oxide of carbon, or carbonic-oxide gas.

Carbon forms, with hydrogen, *carburetted hydrogen,* or gas light; with the alkalies it forms *carbonates,* as carbonate of lime, (marble,) carbonate of soda, &c. A peculiar property of carbon is that of absorbing putrid miasmata, or gases; a knowledge of this fact has given rise to some important applications to culinary operations, medicine, &c.

4. *Phosphorus* received its name from two Greek words,[*] signifying to bear light, this substance being always luminous in the air. With oxygen in different pro-

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[*] *Phos,* light, and *phero,* I bear.

portions, it forms phosphoric acid, phosphorous acid, hypophosphorous acid, and oxide of phosphorus. With hydrogen it forms phosphuretted hydrogen, which inflames spontaneously in the air, producing the exhalations, or *ignes fatui*, which appear about burying-places and marshes. Bones and other animal substances, when decomposing, disengage oxygen, phosphorus, and hydrogen; these united, form phosphuretted hydrogen, which, being specifically lighter than the atmosphere, ascends, and, by its spontaneous combustion, produces those luminous vapors, which the superstitious and ignorant refer to supernatural causes.

5. *Sulphur*, united to oxygen, forms *sulphuric* and *sulphurous acids;* these acids, united to bases, form *sulphates* and *sulphites.* With hydrogen, sulphur forms *sulphuretted hydrogen*, and with the metals, various *sulphurets*, as sulphuret of lead, &c.

6. *Selenium* is less known than any of the non-metallic combustibles; it forms with oxygen, *selenic* and *selenious* acids, and the oxide of selenium. Selenious acid forms, with bases, salts called *selenites;* selenic acid forms salt, called *seleniates.*

7. *Nitrogen*,[*] when first discovered, was called *azote*, which signifies a depriver of life; this term appearing objectionable, as nitrogen is not a direct destroyer of life, the name by which it is now known was given, from the circumstance of its being an essential ingredient in nitric

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[*] In giving nitrogen a place among combustibles, it must be understood that it is not combustible in the common acceptation of the term, as it does not take fire upon being brought in contact with a burning substance; but it is combustible in the chemical sense of the term, since it unites with oxygen and other supporters of combustion.

acid. Nitrogen combines with oxygen in five different proportions, forming

Protoxide of Nitrogen,
Deutoxide of Nitrogen,
Hypo-Nitrous Acid,
Nitrous Acids,
Nitric Acid.

With hydrogen, nitrogen forms *ammonia;* with carbon, *cyanogen;* with chlorine and iodine, a *chloride* and an *iodide*. The compound substance *cyanogen* (signifying by its name the *generator of blue*) is the base of *prussic acid,* (*hydrocyanic acid,*) which, uniting to iron, forms the color called *prussian blue.*

PONDERABLE SUBSTANCES.

Class 3. *The Metalloids, or Earthy and Alkaline Combustibles.*

The termination *oids* is from the Greek, and signifies *like* or similar; thus the term *metalloids* denotes *like metals.* The substances comprehended in this class are, in the strictest sense, metals; but they differ from other metals in their strong affinity for oxygen, which renders it extremely difficult either to obtain or preserve them in a state of purity. It is but recently that they have been known to exist; potash, soda, lime, &c., were considered as pure alkalies, until Davy, by means of the voltaic pile, decomposed potash, and obtained a metal and oxygen: the metal he called *potassium:* thus it was discovered that potash is not an elementary substance, but an *oxide of potassium.* Reasoning from analogy, Davy and some of the French chemists were led to believe that soda, lime, and other alkaline substances, had metallic bases: a series of brilliant and convincing experiments have now established this fact. Metals of this class seem naturally divided into two sections.

Section 1. *Earthy metals*, or metals which are the bases of earths; these are

Silicon, the metal of Silex,
Zirconium, " " Zirconia,
Aluminum, " " Alumine,
Yttrium, " " Yttria,
Thorium, " " Thorine,
Glucinum, " " Glucina,
Magnesium, " " Magnesia.

Section 2. *Alkaline metals.*

Calcium, the metal of Lime,
Strontium, " " Strontian,
Barium, " " Barytes;
Sodium, " " Soda,
Potassium, " " Potash,
Lithium, " " Lithia.

Class 4. *Metals.*

This class contains substances which have, in general, less affinity for oxygen than the metalloids; many of them, such as silver and gold, cannot be easily oxidated; iron unites much more readily with oxygen, as may easily be perceived by exposing any iron vessel to the action of the atmosphere; in a short time it will be found *rusted*, according to the common term, but which, chemically, is said to be *oxidated*, the metal having combined with oxygen from the atmosphere. Any article of gold or silver is not thus acted upon by the atmosphere, nor even by water, which iron soon decomposes, by uniting with its oxygen.

We find, then, in examining the classification of elements or simple substances, Binary compounds.

Imponderable bodies,	4
Supporters of Combustion;	5
Combustibles not metallic,	7
Metals including metalloids, about	40*

Binary Compounds.

Binary compounds (from *bis*, two) are such as are formed by the union of two simple substances; these compounds are of three kinds; 1st, those which are neither *oxides* nor *acids;* 2d, oxides; and 3d, acids.

The binary compounds, which possess neither the properties of acids or oxides, are to be found in the union of the simple combustibles among their own class; as, *carburetted hydrogen*, consisting of carbon and hydrogen; *cyanogen*, of carbon and nitrogen; *chloro-carbonous gas* of chlorine and carbon. Sulphur, with bases, forms binary compounds, called *sulphurets. Steel* is a binary compound, formed of carbon and iron. Oxygen in one, two, three, and even four proportions, forms a great variety of binary compounds; as with sulphur it forms in the highest proportion sulphuric acid, in a lower proportion it forms sulphurous acid, &c. The most important acids are binary compounds.

With the metals, oxygen forms *oxides, protoxides,* &c. There are eight non-metallic oxides, viz.

The Protoxide of Hydrogen, or water,
Peroxide of Hydrogen,
Oxide of Phosphorus,
Oxide of Carbon,
Oxide of Chlorine, or Euchlorine
Protoxide of Nitrogen, or Exhilarating Gas,
Deutoxide of Nitrogen,
Oxide of Selenium.

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[*] For the arrangement of metals and their properties, see Dictionary of Chemistry, article Metals.

The metallic oxides are very numerous; the peroxide of manganese is of great importance in chemistry, it being used for procuring chlorine, oxygen, &c. The deutoxide of iron possesses magnetical attraction; it is called the oadstone, or magnet. The deutoxide of lead is commonly known by the name of white lead. With the earthy and alkaline metals, oxygen forms various oxides; as the oxide of silicon or silex, the oxide of calcium, or ime; the oxide of sodium, or soda; the oxide of potassium, or potash, &c.

Acids.

Acids are distinguished by a sharp and pungent taste: they change vegetable blue colors to red, and combine with metallic oxides to form salts, or to alkaline oxides (as soda and potash) in order to neutralize or be neutralized by them. It was long believed that the acidifying power was confined to oxygen: hydrogen is now supposed to possess this property: thus the acids are now divided into *oxacids* and *hydracids*. The oxacids are numerous; some of the most important are,

Nitric Acid, composed of Nitrogen and Oxygen,
Sulphuric Acid, " " Sulphur and Oxygen,
Carbonic Acid, " " Carbon and Oxygen.

There are four hydracids, viz. hydrosulphuric, (usually called sulphuretted hydrogen,) hydriodic, hydrochloric, and hydroselenic.

Quaternary Compounds.

Salts.—Salts are compounds of oxides with acids: as the acids are binary compounds, the salts are of course quaternary or quadruple combinations: they are of three kinds; 1st, *neutral*, presenting neither acid nor alkaline properties; 2d, with *excess of oxide;* 3d, with *excess of acid.* The salts are divided into genera; each genus consists of the combination of one acid with various oxides, and is subdivided into three series, *neutral*, *super*, (over,) and *sub*, (under.) In all salts of the same genus, and at the same degree of saturation, the quantity of acid is to the quantity of oxide in a uniform proportion.

Genera of Salts.

Borates. The most important species is the *subborate of soda.* It is found in some lakes.

Carbonates. This genus is distinguished by being decomposed with effervescence, owing to the escape of carbonic acid. Among the most important species of this genus are *carbonate of lime*, consisting of chalk, limestone, &c.; *subcarbonate of soda*, commonly called soda; *carbonate of ammonia*, produced by the decomposition of animal matter; *carbonate of iron*, a valuable mineral; *carbonate of copper*, of various colors, as blue, green, &c.; *carbonate of lead* is white lead; *subcarbonate of potash* is the potash of commerce.

Phosphates. In this genus is the *phosphate of lime*, which forms an important part of the bones of animals, and is used for the manufacture of phosphorus. *Phosphate of cobalt*, by calcining with alum, forms a beautiful color, called Thenard's blue.

Sulphates. The most common species which exist in nature are those of lime and barytes. *Sulphate of Lime* is gypsum, or plaster of Paris. *Sulphate of Magnesia* is Epsom salts. *Sulphate of Potash* was formerly called *vitriolated tartar.* Alum is a double sulphate of potash and alumine. *Sulphate of Soda* is Glauber's salts. *Sulphate of Iron*, combined with nutgalls, forms ink. *Sulphate of Copper* (Deuto) is copperas, or blue vitriol.

Nitrates. But three species of this genus are found in nature. *Nitrate of Potash* is saltpetre; it is of important use in the manufacture of gunpowder. *Nitrate of Bismuth* is used in the manufacture of pearl white. *Nitrate of Silver* is lunar caustic.

Chlorates. None of this genus are found native. It contains the *Chlorates of Potash*, (oxymuriate of potash,) *soda*, *lime*, &c. Hydro-Chlorates were formerly called *muriates.* When crystallized or dried, they lose the hydrogen of their acid, and become *chlorides;* these in their turn, when dissolved in water, form *hydrochlorates.* *Hydro-*

hlorate of lime (muriate of lime) is of use in medicine, and in chemical experiments. *Hydrochlorate of ammonia* is manufactured by the reaction of marine salt upon the sulphate of ammonia.

*Chlorides.** There are many metallic chlorides, as chlorine has a strong affinity for metals. *Chloride of Calcium* is distinguished by having an affinity for water. *Chloride of Sodium* is common salt; its properties are known in all civilized countries. *Chloride of Soda* is found useful in removing offensive gases from the atmosphere, and preventing infection from sick persons or dead bodies. The chlorine is supposed to decompose the noxious exhalations, by uniting with the elements of which they consist, particularly the hydrogen. *Chloride of Lime* is commonly called bleaching powder; its properties are not unlike those of the chloride of soda. *Chloride of Mercury* is subdivided into the *bichloride* (deutochloride) which is corrosive sublimate, and the *protochloride*, which is calomel. There are many other important species in this genus, as the *chlorides of manganese, iron, silver,* &c.

Hydriodates. But one species of importance is known, viz. the *Hydriodate of Potash.*

Chromates. The most important species is the *Chromate of Lead*, which is of a beautiful yellow.

There are other genera of salts, as the *nitrites, sulphites, phosphites,* &c. which are formed, by combinations of nitrous, sulphurous, and phosphorous acids with bases: the properties of these, although in many respects differing from the salts formed with the higher acids, are not in general very dissimilar.

The organic kingdom furnishes an almost infinite variety of important compounds; *vegetable acids* are very numerous; the *acetic, tartaric, oxalic, malic, kinic,* &c., are all of use in medicine and in the arts. Among the *vegetable alkalies* are *morphia*, the narcotic principle of opium, *cinchonia*, and *quinia*, extracts of the Peruvian bark, with many others. Oils, resin, wax, alcohol, ether, sugar, starch, tannin, lignin, and various coloring substances, are all products of the vegetable kingdom. Salts are formed by the union of the vegetable alkalies with acids, as the *sulphate of quinine, of morphine,* &c.

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* The chlorides, although mentioned here, are not proper salts; they are analogous to oxides, iodides, and bromides.

Animal Chemistry presents a new set of compounds, as fibrin, gelatine, acids, and oils; it investigates the compounds of all animal matter, as bones, teeth, blood, and the various secretions; and traces all those to their final or ultimate elements, oxygen, hydrogen, carbon, and nitrogen.

Chemistry takes a wider range than any other department of physical science; in the mineral kingdom it penetrates the hardest materials, and inquires into the nature of their elementary constituents. In the vegetable substances, chemistry with scrutinizing glance detects their medicinal and nutritious qualities: do these require to be separated from their various combinations, this almost magic art can disentangle and set them free. In the animal kingdom, chemistry performs a high and solemn office, teaching proud man himself, that his own material frame, beautiful in its aspect, and noble in its bearing, is, in truth, but a compound of a few simple elements, which, as they have previously existed in other combinations, will again be dissipated to become parts of the worm that "feeds sweetly" upon the decaying body, and of the noisome weed or lowly plant, that springs from the soil which covers his earthly remains.

History of Chemistry.

The term chemistry is by some supposed to be derived from the Greek word *kemia*, or the Arabian *chamia*, which signify to burn; and that this science at first signified the examining of substances by fire. By others, the word chemistry is supposed to have been used by the Egyptians in a sense equivalent to the present meaning of the term *Natural Philosophy*. Science, among the Egyptians, was for a long time confined to the wise men, or *magi*, who carefully concealed their knowledge from the people. Plutarch supposes that the study of nature, for this reason, was called chemistry, which word in his opinion signified the *secret science*. Whatever might have been the degree of knowledge of nature possessed by the Egyptians, they were probably acquainted with the most important facts on which the science of chemistry is founded.

The Israelites gained from the Egyptians some knowledge of the art of working metals, and of dyeing red, blue, purple, and scarlet. The Phœnicians are supposed to have understood the manufacture of glass, perfumes, and imitations of precious stones. This knowledge was successfully communicated to the Carthaginians and Greeks, and by them to the Romans; the two latter people seem, however, to have possessed but a very limited knowledge of any chemical operations, or any branch of analytical science. Plato seemed sensible of this when he makes an Egyptian priest say to Solon, "You Greeks will be always children; for you have neither the antiquity of knowledge, nor the knowledge of antiquity." The religious belief of the Greeks and Romans, may afford some excuse for their ignorance of nature: who among them would have dared to take water from a fountain or a river, and decompose it by fire? They would have considered it as a sacrilege against the Naiad, or the protecting divinity of the stream: the grand priest would have exclaimed against the impious wretch, and the people in their indignation would have torn him to pieces.

Although the Egyptians were idolaters, yet less imagination was mingled with their religious belief; and, free from many of the superstitions which kept other nations in intellectual bondage, they dared to look into the secrets of nature. Pliny the elder places the Egyptians as first in the knowledge of the sciences. Democritus of Thrace, who flourished 500 B. C., travelled into Chaldea, Persia, and Egypt: in the last country he gained a knowledge of chemistry that appeared to Pliny almost superhuman; and yet this classic and venerable land has transmitted to us scarce a vestige of any discoveries! But we cease to be surprised at this, when we reflect that the library of Alexandria, which contained their treasures of knowledge, was successively destroyed by the victorious Romans, and Mahometans.

Science, driven from Egypt, Greece, and Rome, in the 4th century took refuge in Arabia, and chemistry appeared under the name of *Alchemy.*

The alchemists imagined that gold existed in all metals; and it was their great object to ascertain the manner in which it might be separated from its combinations, and obtained pure: they expected to find some substance which would enable them to perform this great operation: this imaginary substance, which some pretended to have discovered, was called the *philosopher's stone.* Those who studied alchemy pretended to great secrecy, affirming that some heavy calamity would fall upon any one who should reveal the principles of the science; keeping themselves separate from the world, they invented mysterious characters, by which the initiated could hold correspondence without danger of discovery.

Among the alchemists, notwithstanding the folly of their pursuit, and the baseness of their deceptions, we find the names of a few distinguished for talents and learning. ***Albert the Great***, a German, who lived in the 12th century, wrote a work upon alchemy, in which he described the chemical process then in use. His treatise on metals was written with clearness, and showed a mind familiar with many of the phenomena of nature. His countrymen, astonished at the extent of his knowledge, accused him of magic, and threw him into prison. His pupil, Thomas Aquinus, wrote upon alchemy, and, for the first time, the word *amalgam* was introduced into chemistry. In his writings astrology and alchemy were united.

In England, contemporary with Albert the Great, was ***Roger Bacon***, the most enlightened and judicious of all the alchemists. In his treatise "*De mirabili potestate artis et naturæ*," (of the wonderful power of art and nature,) he protested against the foolish belief in magic, charms, and necromancy; he asserted that superstition tyrannized over the human mind, through ignorance of natural phenomena. He was acquainted with the *camera obscura*, telescope, and the use of gunpowder. Notwithstanding he carefully concealed his labors, he was accused of magic, and imprisoned. ***Raymond Lully*** treated of the preparations of acids, and of phosphorus.

About the middle of the 12th century, ***Arnold de Villa Nova***, a physician, eminent among kings and popes, directed alcohol and the oil of turpentine to be used in medicinal preparations. John and Isaac Holland published several treatises on chemistry, with plates representing the apparatus which they used. They made experiments upon human blood, which have aided the more recent discoveries. They invented the art of enamelling and coloring glass and precious stones.

Basil Valentine, a German monk, taught that all substances were composed of salt, sulphur, and mercury: he was the first who applied chemistry to medicine. The most important of his works was called "*Currus Triumphalis Antimonii*," (triumphal chariot of antimony;) in this, he gave such an account of his experiments with this metal, as excited an interest among all the physicians of Europe.

An opinion had long prevailed among the alchemists that a medicine might be discovered which should be a universal cure or *panacea** for all diseases; some asserted that this could be found in the philosopher's stone, which not only converted metals into gold, but, among other extraordinary virtues, possessed the power of rendering man immortal upon the earth.

Of all the alchemists, none appear to have pretended to so many discoveries as *Paracelsus* a native of Switzerland, born in 1493. He confidently boasted that he was in possession of an elixir which would render him immortal; but he died in the prime of life, leaving his followers overwhelmed with shame and dismay. The last of the alchemists was *Van Helmont*, who boasted of being in possession of the universal remedy to which he gave the name of *alkahest.*

The alchemistical system crumbling into ruins, chemistry, like the fabled Phœnix, arose from its ashes. *Becher*, a professor of medicine in Germany, taught that the

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* This term is derived from two Greek words, *pan*, all, and *akos*, medicine, signifying to cure all.

urth was not a simple element, but a combination of ele-
ients; he attempted to establish chemistry on its true
asis, that of analysis: his experiments were of great use to
ucceeding chemists.

Stahl, the pupil of Beccher, remodelled and simplified
1e theory of his predecessors, attempted to explain the
rocess of combustion, and to reduce the phenomena of
hemistry under a certain number of heads. His theory
f combustion supposed that a certain substance, which
ie called *phlogiston*, formed a part of all combustible bo-
ies, and that its separation constitutes fire. On account
f the boldness of his investigations, he was called the sub-
ime Stahl. He is the first chemist who appeared to have
ny clear ideas of chemical affinity; he even suggested the
heory of *double elective attraction.*

At this period many learned men were engaged in
hemical pursuits, and the science was enriched by the
liscoveries of *Boyle*, *Agricola*, *Glauber*, *Kunckel*, *Liba-*
ius, *Bohnius*, *Lemery*, and others.

Boerhave, an accomplished philosopher and celebrated
hysician, published a system of chemistry in 1732, which
ontained a more ample collection of chemical experi-
ments, and more clear and precise directions for repeating
them, than any previously offered to the world. He gave
in account of vegetable analyses, more simple and scien-
tific than any which had before appeared.

Notwithstanding all these improvements, chemistry
was yet in a very imperfect state; some of the absurd
notions of the alchemists still remained, and loose and un-
satisfactory reasonings, founded on vague analogies, were
employed. It was not for a common mind to attempt to

remove the shackles of prejudice which ages had been riveting upon the human intellect. At this time appeared Bergmann, a man gifted with a quick and discriminating genius, a moral courage that could look above "the world's dread laugh," and a devoted enthusiasm for the science of chemistry.

With a true analytical method he scrutinized nature, with a view to ascertain her laws of aggregation; he arranged the well-known tables of *elective attractions*, and published many important experiments upon volcanic products. The clearness of his conceptions, the accuracy of his observations, and the methodical arrangement which he introduced into the science of chemistry, entitled Bergmann to a rank among its greatest benefactors. A native of the same country, and contemporary with Linnæus, it was his high destiny to labor with almost equal success in the cause of natural science. While Linnæus was investigating the *external forms* of nature, with a view to the systematic arrangement of the animal, vegetable, and mineral kingdoms, Bergmann was analyzing and arranging the *elements* of which they are composed. With the frankness and generosity which marks a noble mind, he sent to Linnæus an account of his experiments and observations. The latter, equally generous, forwarded Bergmann's communications to the academy of Stockholm, with this inscription, "*Vide, et obstupui,*" (I have seen, and am amazed.)

Scheele, the pupil and friend of Bergmann, enriched chemistry with new and important facts: he died in 1786, two years after the death of his predecessor: his name is commemorated in that of a compound of copper and arsenic, (arsenite of copper,) called *Scheele's green.* By a late distinguished chemist,* he is called the Newton of chemistry.

Soon after the death of Bergmann and Scheele, a series of splendid discoveries marked the advancement of chemical science in Great Britain. Dr. Black discovered the existence of latent caloric, and that limestone is a compound of lime and an *aerial fluid,* which he called fixed air, now called *carbonic acid gas.* This discovery gave rise to *pneumatic* chemistry, or that branch of the science which relates to gases.

Mr. Cavendish, soon after this, discovered *hydrogen gas.* In 1770, Dr. Priestley commenced a series of pneumatic discoveries: he observed, that by heating certain metals, a kind of air was obtained, much purer than the atmosphere, and in which combustible substances burned with great brilliancy. It is scarcely necessary to say that this was *oxygen* gas.

While the science of chemistry was receiving these important acquisitions in one part of Europe, Lavoisier, in France, had already commenced his brilliant career, and opened to his countrymen that pathway to scientific distinction, which so many have since pursued with almost unrivalled success. Lavoisier found that the recent discoveries, with respect to gases, could not be reconciled with the phlogistic theory of combustion; and after years of patient and laborious investigation, he published the grand theory which considered oxygen as the supporter of combustion. This theory, at first, met with general opposition, but gradually gained supporters, until Cavendish, Berthollet, Black, Morveau, Fourcroy, and Kirwan, (the latter of whom had strongly opposed it,) were found among its disciples.

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* Thomson.

In 1787, Lavoisier, Fourcroy, Berthollet, and Guyton de Morveau, were appointed by the French academy to decide upon a nomenclature of chemistry : with great care and research they formed that, which is now the, almost, universal language of the science.

Great Britain boasts of many distinguished modern chemists ; of Davy, the powerful advocate of the chloridic theory, and inventor of the safety lamp ; of Murray, Brande, and Thomson, with many others, whose labors have enlightened the present age, and whose works will render their names familiar to succeeding generations.

On the continent, Berzelius, Vauquelin, Berthollet, Gay-Lussac, Thenard, Dumas, Dulong, Pelletier, and others, have carried their researches and analyses to a degree of accuracy and clearness hitherto unrivalled. The year 1829 is memorable for the loss sustained by science, in the death of two of her most distinguished votaries, Vauquelin and Davy.

In America, Franklin, fearlessly encountering the lightning from heaven, proved its identity with electricity, and taught mankind to guard against this awful agent of destruction. Hare and Silliman, with other veterans in the science, and less experienced chemists, are interrogating nature with a brighter prospect of discovery than that which encouraged the efforts of their predecessors : for, as the field of discovery and improvement is infinite, in proportion as facilities for them are multiplied, so are the motives for exertion. As proper would it have been, at the period when earth, fire, and water were considered as the *four elements* of nature, for an investigating mind to have rested in this belief, as at this day for us to suppose that we have arrived at the maximum of human knowledge, or have already learned as much of the properties of nature as its Almighty Creator wills that we should know.

From the nature of *chemical experiments*, which, in most cases, require either firmness of nerve, unshrinking courage, or physical strength, and sometimes all these qualities combined, woman may not aspire to add to the stock of chemical science, discoveries of her own; but, gifted with the intellectual power to trace the relations of cause and effect, and comprehend the wonderful properties of matter which science reveals, she may dare to raise the curtain which conceals the operations of nature, and, entering her laboratory, behold the grand experiments there exhibited: nor should it be considered a small privilege that she is permitted to share in the sublime discoveries of science, and to feast on the banquet of knowledge, prepared by others.

Is it not more noble for an immortal soul thus to employ itself in learning the second causes by which the Deity operates in the material world, than to waste the precious hours of existence in dreaming over sickly works of fancy? Can the admirers of sublimity and beauty find none in the study of nature? or can the lover of the marvellous find no wonders in her operations? There is in chemistry, poetry to satisfy the most extravagant fancy, and in the sublime truths of the science are mysteries far surpassing the boldest conceptions of human genius.

LECTURE XIX.

Natural History.—Zoology.—Botany.

In the study of nature, we become familiar with the works of God; we contemplate the heavens above, the materials of the earth beneath, the objects around us, and we feel that they must have had a Divine Author. Whether we view the works of nature on a large scale, as exhibited in the more magnificent parts of creation, or with microscopic eye examine the structure of a crystal, an insect, or a blade of grass, we are alike struck with wonder and awe: we bow in adoration before Him to whom nothing is great, and whose minute providence is over all, even the least of his works. The study of nature has a tendency both to humble, and to exalt man in his own eyes. When he compares his own powers, physical and mental, with that *omnipotence* which the works of nature manifest, he feels that he is " less than nothing, and vanity:" but when he finds within himself faculties capable of investigating the properties of these wonderful objects, of arranging them in classes, of discovering their laws of organization, and of decomposing them into their original elements, he feels himself ennobled; he realizes that these faculties must be those of a soul capable of still higher attainments.—It is, indeed, salutary to hold converse with the works of God, that volume which has been emphatically termed, "the elder scripture writ by God's own hand."

We have observed that all material bodies, as animals, plants, and minerals, are subject to chemical observations and experiments;—in order for this, they must be pulverized, dissolved, distilled, or melted. By a series of such, and other processes, the chemist arrives at the knowledge of the elements which compose the various bodies, organic and inorganic, which he meets with.

In Natural History, a term which comprehends Zoology, Botany, and Mineralogy, we view animals, plants, and minerals, as they exist in their complete state; we observe their external forms, and the various changes which nature produces in them. The first object of the naturalist is to know the productions of nature, and to distinguish the various kinds or species from each other. The next s the arrangement of these species under more general livisions; and, again, to simplify these divisions, until, inder a few classes, he arranges the almost infinite variety of natural productions.

Zoology.

The term Zoology is derived from the Greek *zoe*, life, and *logos*, discourse. This science examines and classes hose organized beings, which are termed animal. The listinction between animal and vegetable life is not, in all cases, so clear as might be imagined, yet, in general, it is sufficiently apparent. "The animal has the power to nove about, and to seek the nourishment most agreeable; t utters audible sounds, and possesses sensation and apparent consciousness. The plant, on the contrary, is confined to a particular spot, having no other nourishment than substances which themselves come in contact with it; exhibiting no consciousness, nor, to common observation, any sensation. It is only when we examine with close attention the various phenomena in the vegetable and animal kingdoms, that we learn to doubt as to the exact boundaries by which they are separated."

For a general view of the science of zoology, I shall avail myself of the sketch appended to the "View of Nature," in my Lectures on Botany. One great distinction in the animal kingdom is with respect to the *vertebræ*, or back bones; such animals as have these, are called *vertebral;* such as have not, are called *avertebral.*

There are *four* great families of *vertebral animals*, viz.

1. *Quadrupeds.* The science of which has no popular name. This family includes only four-footed animals; as ox, dog, mouse.

2. *Birds.* The study of which is called *ornithology*, from *ornis*, a bird, and *logos.* This family includes the feathered tribe; as pigeon, goose, wren.

3. *Amphibious animals*, (from *amphi*, both, and *bios*, life, signifying to live in two ways.) The science which treats of these is called *amphibiology:* it includes those cold-blooded animals which are capable of living on dry land, or in the water; as tortoise, lizard, serpent, frog.

4. *Fishes.* The science of which is called *ichthyology*, from *ichthus*, a fish, added to *logos.* It includes all aquatic animals which have gills and fins; as shad, trout, sturgeon, eel.

The *avertebral animals* are divided into two classes.

1. *Insects.* The science of which is called *entomology*, (from *entomos*, an insect.) It includes all animals with jointed bodies, which have jointed limbs; as flies, spiders, lobsters.

2. *Vermes.* The science of which is called *helmin-*

hology. It includes all soft animals of the avertebral division, which have no jointed limbs, with or without hard overings; as angle-worms, snails, oysters, and infusory nimals, *(animalculæ.)*

According to the classification of Linnæus, with some nodifications by Cuvier, the Animal Kingdom is arranged nder four grand divisions, viz.

Vertebral, Molluscous, Articulated, and Radi-TED. These are subdivided into classes and orders.

First Grand Division.—Vertebral Animals.

Class 1. *Mammalia*, or such as, at first, are nourished y milk. This class have lungs, and peculiar organs for mbibing food, during their first stage of existence.

The *First order* is called *bi-mani* (from *bis*, two, *mani*, ands;) this order includes *man*, only; we find here no eneric or specific differences, but the following *varieties*.

1. *Caucasian* race, anciently inhabiting the country bout the Caspian and Black Seas; from these the Euroeans are descended.

2. The *Mongolian*, the ancient inhabitants about the acific Ocean, from whom the Chinese are descended.

3. The *Ethiopian*, or Negro race.

The *Second order* contains the *quadru-mani*, from *uatuor*, four, and *mani*, hands. These have separate humbs or toes, on each of the four feet. We here find he ourang-outang, (sometimes called the wild man,) and he monkey.

The *Third order* contains *carniverous* animals, or *lesh-feeders*, having no separate thumbs, or having great oes without nails; as the dog and cat.

The *Fourth order* contains the *Gnawers*, having no canine teeth, (those which are called eye-teeth,) feeding almost wholly on vegetable substances; as the rat and squirrel.

The *Fifth order* is *Edentata,* or animals *wanting teeth;* as the sloth and armadillo.

The *Sixth order, Pachyderma,* thick skin animals, with hoofs; as the elephant, horse, and hog.

The *Seventh order* contains the *Ruminating* animals, such as chew the cud, having front teeth (incisors) below only, and feet with hoofs cloven; as the ox, sheep, and camel.

The *Eighth order, Cete,* contains aquatic animals, such as live in water, having no kind of feet, or whose feet are fin-like limbs; as the whale and dolphin.

We have enumerated all the orders of the class **Mammalia,** as it is the one on which man is placed; we shall now notice the remaining classes of animals, without going into so minute a detail of their orders.

Class II. Contains Birds, (*Aves,*) which are distinguished by having the body covered with feathers and down, long naked jaws, two wings formed for flight: they are called biped, (from *bis,* two, and *pedes,* feet.) The orders in this class, are chiefly distinguished from each other, by the peculiar make of the bill and feet.

Class III. *Amphibia,* contains amphibious animals, including what are commonly called *reptiles.* It is divided into four orders.

1. With shells over their back, and four feet; as the tortoise and turtle.

2. Covered with scales, and having four feet; as the crocodile and lizard.

3. Body naked, destitute of feet; as serpents and snakes.

4. The body naked, and having two, or four feet; as the frog and toad.

Class IV. Contains *Fishes*, (Pisces,) natives of the water, unable to exist for any length of time out of it; swift in their motions, and voracious in their appetites, breathing by means of gills, which are generally united in a long arch; swimming by means of radiated fins, and mostly covered with scales.

Second Grand Division.

Class V. ***Mollusca***, bodies soft without bones, but their muscles attached to a skin which forms a calcareous covering, called a shell, and is, in many cases, produced from their skin. These animals possess no organs of sense but those of taste and sight, and these are often wanting. The nautilus and cuttle-fish are of the highest order of molluscous animals.

One order contains animals without any head, having a shell usually of two pieces; these are called ***Bi-valves;*** as the oyster, clam, and snail. The study of conchology (from *conchus*, a shell) has relation to this class of animals.

Third Grand Division.

We proceed next to animals called ***Articulated;*** these have jointed trunks, and mostly jointed limbs. They possess the faculty of ***locomotion***, or changing place: some have feet, and others are destitute of them; the latter move by trailing along their bodies.

Class VI. ***Annelida***, contains such animals as have red blood, without a bony skeleton; bodies soft and long, the covering divided into transverse rings; they live mostly in water; some of them secrete calcareous matter, which forms a hard covering, or shell; as the earth or angle-worm, and leech.

Class VII. *Crustacea*, contains animals without blood, with jointed limbs fastened to a calcareous *crust*; they breathe by a kind of gills.

Class VIII. *Arachnida*, contains spider-like animals, without blood, having jointed limbs, without horns: they breathe by little openings, which lead to organs resembling lungs, or by little pipes distributed over the whole body: these do not pass through any important change of state, as insects do; they have mostly six or eight eyes, and eight feet, and feed chiefly on living animals. Examples of this class are the spider and scorpion.

Class IX. *Insecta*, or insects, without blood, having jointed limbs and horns: they breathe by two pipes, running parallel to each other, through the whole body; they have two horns; they are mostly winged, having one or two pairs: a few are without wings; mostly with six feet. They possess all the senses which belong to any class of animals, except that of hearing.

The winged insects pass through several changes or metamorphoses. The butterfly is first an *egg;* this when hatched is long and cylindrical, and divided into numerous rings, having many short legs, jaws, and several small eyes; this is the *larva*, or caterpillar. At length it casts off its skin, and appears in another form, without limbs. It neither takes nourishment, moves, nor gives any sign of life; this is called the *chrysalis*. In process of time, by examining it closely, the imperfect form of the butterfly may be seen through the envelope; this it soon bursts, and a *perfect butterfly* appears. When about to pass into the chrysalis state, of which they appear to have warning, the insect selects some place where it may repose safely during its temporary death.* The silk-worm spins itself a silken shroud, and from this all our silk is obtained.

Fourth Grand Division.—Radiated Animals.

Class X. *Zoophites,* or animal plants. Here we find the lowest beings in the animal kingdom. Some of the orders of this class contain animals which have neither heart, brains, nerves, nor any apparent means of breathing. These are sometimes called *animal plants;* many of them, as the *corals,* are fixed to rocks, and never change place. The term coral includes under it many species; the red coral used for ornaments is the most beautiful. The substance of coral, when subjected to chemical analysis, is found to consist chiefly of *carbonate* of lime; the hard crust which envelopes the animal substances, is an excretion formed by it in the same way as the shells of the oyster and lobster are produced, or as nails grow upon the fingers and toes of the human body. The quantity of this carbonate of lime elaborated by the little coral animal is truly wonderful; islands are formed and harbors blocked up by it. Some of the zoophites are fixed, by a kind of root, to the bottom of the sea; some, as the *sea-nettle,* which appears like the segment of a circle, are carried about by the motion of the waters, without any voluntary motion, as are also the *sea-daisy, sea-marigold,* and the *sea-carnation,* so named from an apparent resemblance to those plants. We find here the *sea-fan,* the *sea-pen,* and the *madrepore*, the latter of which are often thrown together in vast quantities.

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* May not this be considered as a lesson to man to anticipate and provide for the change in his existence, which his bodily infirmities and daily observation teach him is to be his own lot?

The sponge also belongs to this class of strange animal substances; it consists of a fibrous mass, containing a jelly-like substance, which, when touched, discovers a slight sensation, the only sign of life manifested by it. There are many species of sponge; those most valued in the arts are found in the Mediterranean Sea and Indian Ocean. Some grow upon rocks, and are found covering the interior of submarine caves. The *spongia parasitica* is seen growing upon the back and legs of a species of crab; sometimes as many as forty individual sponges extend themselves over the crab, impeding the motion of its joints, spreading like a cloak over its back, or forming for its head grotesque and towering ornaments, from which the poor animal vainly attempts to disencumber itself.

Some species of the sponge grow to a very large size; one has been found in the East Indies in the form of a cup, capable of containing ten gallons of water. The fibrous part of the sponge is the skeleton of the animal: the large apertures serve to carry off the excretions, while the water by which the animal is nourished is imbibed by the smallest pores: this continual circulation of water is one of the most important functions of the living sponge.

These animals resemble plants in their manner of producing others; they form a species of germ, like the bud growing upon the stalk; this falls off from the stem, and becomes a perfect animal. If a part of one of those animals be separated from the rest, it will itself be as perfect a living animal as was the whole before. A polypus can be divided into as many animals as it contains atoms; some of this order are very properly called *hydras*, (many headed.) Besides these, there is another order of animal substances, *infusoria*, which appear like a homogeneous mass, having no appearance of any limbs whatever; these are either angular, oval, or globular.

At the head of the animal kingdom we found man, sufficiently resembling brute animals in his material frame to constitute part of an extensive class, embracing the ape, elephant, and dog; yet between the lowest degree of intelligence in the human race, and the highest faculties of brutes, there is a line of distinction marked by the hand of the Almighty, in characters too obvious for doubt. God said, "Let us make man in our own image; and he breathed into him the breath of life. And man became a living *soul.*"

Some writers have attempted to show that man differs only from the inferior order of animals in possessing a greater variety of instincts. But, however wonderful may appear the instinctive perceptions of brutes, they are destitute of reason, and incapable of being the subjects of moral government. We must, therefore, both from our own observation and the declarations of Scripture, infer, that the faculties of man differ, not in *degree* only, but distinctly in their *nature*, from those of all other beings upon our globe.

"Man," says Buffon, "by his form, and the perfection of his organs, and as the only being on earth endowed with reason, seems properly placed at the head of the kingdoms of nature. All, in him, announces the lord of the earth; his form marks his superiority over all living beings; he stands erect in the attitude of command; he can gaze upon the heavens; on his face is imprinted the character of dignity; the image of his soul is painted upon his features, and the excellence of his nature penetrates through his material organs and animates the expression of his countenance."

In the orders of animals next to man, we find the senses of sight, touch, taste, and smell, equally perfect as those possessed by him, and in some cases they are even more acute; but as we proceed downwards through the gradations of animal existence, we perceive the number and acuteness of the senses to diminish; we find some beings with but four senses, some with three, others with two; and lastly, in the zoophites, we find only the sense of touch, and that so faintly exhibited, as almost to lead us to doubt its existence.

The branches of zoology which may be pursued most easily and most agreeably by females are *conchology* and *entomology*. Conchology presents to the eye of taste many splendid and curious objects. Fashion, with her potent wand, seems to have ordered shells a place in the saloon and boudoir, and it now remains for science to make her claim to the right of arranging them according to her own methodical and philosophical rules.

"To procure shells in their native situation is by no means difficult; they may be picked up in ledges, and on banks; drawn out of ponds and rivers, along with weeds; collected on the sea-shore, or among rocks; or they may be found among the refuse, in fishermen's nets. To obtain an extensive collection in this way, would, however, require much time and travelling, or the kind aid of many friends; enough, however, to illustrate the classes, orders, and many of the families, may be thus easily assembled, and afford much practical instruction. We recommend such a commencement before recourse be had to the more usual mode of obtaining a collection; namely, that of purchase. If the latter means be resorted to, the buyer should be satisfied that each shell is perfect and full grown, and, if only one of the kind be selected, well colored, and as much in its natural state as a freedom from foreign matters will permit: all degrees of artificial polish, or form, should be considered as blemishes; except in articles of ornament. The size should be suited, as nearly as possible, to that of the purchaser's cabinet. It will be found of advantage to the student, to endeavor to fill up her series of families, or genera, before she is anxious about particular species; unless she would confine her collection to some one tribe, which, after she has obtained a little general information, is a good practice. A collection is best kept in small trays, in shallow drawers of equal depth; and such specimens as are too large for the drawers, will form a handsome article of furniture arranged in a glass case. Our reason for recommending drawers of an equal depth, is, that a systematic arrangement may be followed which would add greatly to the value of any collection, and would be entirely destroyed by having regard to every variation of size. No other care will be requisite, than to exclude the dust, or occasionally wash the specimens tenderly with soap and water."*

Entomology is an interesting branch of Natural History. There is a difficulty in the pursuit of this, which does not exist in the study of shells, since in the latter case, in obtaining specimens, we do not, usually, need to destroy animal life; the inhabitant of the shell being in most cases decayed, before its covering passes into our hands. It is the tenement, and not the organized being, which is the object of our classification. But in the examination of insects we cannot but experience uneasiness at the idea of causing pain, even to a poor beetle—and then the giddy butterfly, so joyous and sportive, we cannot but feel some regret to abridge its ephemeral existence, and to know that its beauty has accelerated its doom—emblem but too apt, of many an unfortunate of our own sex! And yet, waiving the consideration of suffering, which may be, in a degree, imaginary, since there are various ways in which insects can be deprived of life without pain, there is much to interest the mind in the study of entomology,—much to awaken new admiration for the works of Nature, and to show forth the wisdom of its Author. The least insect, considered as the workmanship of God, becomes to us a curious manifestation of his skill. We find insects, like all other organized beings, arranged by nature into genera, as in the butterfly, *papilio;* the bee, *apis;* the fly, *musca,* &c. Orders and classes are a less natural division formed by men of science for the purpose of more convenient reference and arrangement.

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* Young Lady's Book.

The study of Zoology will naturally lead you to think more of the structure of your own frame: and however startling the idea may be, I cannot but consider some knowledge of the human anatomy as desirable for females. You will pardon me if I here allude to the utility of this knowledge as exemplified in the case of my own mother, in whose recent loss I have had the kind sympathy of many an affectionate heart among my pupils.

She early acquired a habit of examining the anatomy of such animals as are used for food; joints of meat, fowls, &c. she dissected with particular attention to the form and position of the different bones. Thus she soon became an adept at carving, (an art which every mistress of a family ought to understand,) and, reasoning from analogy, formed a tolerably correct idea of the human anatomy. In rearing a large family, she often found this knowledge of great use. In more than one case, where accidents in her own family, or immediate neighborhood, had caused dislocation of joints, and immediate surgical aid could not be obtained, she replaced bones, and secured them by proper ligatures.

You may now shrink from the thought of performing such offices; but, in the varied scenes of life, many trials may be required of your skill, fortitude, and strength of nerves, from which a sickly sensibility might revolt. But which is the truly good, and interesting neighbor, daughter, wife, or mother—she who can command her own feelings sufficiently to perform painful offices for the relief of those she loves, and even for the sake of common humanity, or she who, like Niobe, dissolved in sentimental grief, commiserates, without attempting to relieve? Youth and beauty may now gain for you a short-lived admiration, but the time will soon arrive, when you will be loved, respected, and honored, only as you are good, wise, and useful.

Botany.

The study of Botany is highly calculated to interest females, and to enlarge and discipline the mind. This idea, and the conviction that no popular work existed which could lead the pupil step by step from the simple elements, to the general principles of the science, gave rise to my Familiar Lectures on Botany.* Since the publication of that volume, I have had the satisfaction of knowing that the science of which it treats has been extensively introduced into female seminaries and schools, of every grade, from the highest to the lowest. The mistaken idea that botany was a dry and difficult study, had deterred most females from attempting to gain any scientific knowledge of the vegetable kingdom. So far, however, is this from being the case, that there is no study in which the leading principles of arrangement can be more readily comprehended and remembered. Scientific names may not be so easily retained in memory, but it is the *system*, and not the names, which is of the most importance. It is however far less difficult to remember technical terms than is often imagined, especially when these are referred to their primitives, and their original signification understood.

In exhibiting some of the advantages of the study of botany, I shall make use of the Introductory Lecture in the work to which I have just referred.

The universe consists of *matter* and *mind*. By the faculties of mind with which God has endowed us, we are able to examine into the properties of the material objects by which we are surrounded.

If we had no sciences, nature would present exactly the same phenomena as at present. The heavenly bodies would move with equal regularity, and preserve the same relative situations, although no system of Astronomy had been formed. The laws of gravity, and of motion, would operate in the same manner as at present, if we had no such science as Natural Philosophy. The affinities of substances for each other were the same, before the science of Chemistry existed, as they are now. It is an important truth, and one which cannot be too much impressed upon the mind in all scientific investigations, that no systems of man can change the laws and operations of nature; though by systems we are enabled to gain a knowledge of these laws and relations.

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* At the request of teachers of *common schools*, the author has been induced to prepare a smaller work, in a style adapted to the capacities of children.

The Deity has not only placed before us an almost infinite variety of objects, but has given to our minds the power of reducing them into classes, so as to form beautiful and regular systems, by which we can comprehend, under a few terms, the vast number of individual things, which would, otherwise, present to our bewildered minds a confused and indiscriminate mass. This power of the mind, so important in classification, is that of *discovering resemblances*. We perceive two objects, we have an idea of their resemblance, and we give a common name to both; other similar objects are then referred to the same class, or receive the same name. A child sees a flower which he is told is a rose; he sees another resembling it, and nature teaches him to call that also a rose. On this operation of the mind depends the power of forming classes, or of *generalizing*.

Some relations or resemblances are seen at the first glance; others are not discovered until after close examination and reflection; but the most perfect classification is not always founded upon the most obvious resemblances. A person ignorant of botany, on beholding the profusion of flowers which adorn the face of nature, would discover general resemblances, and perhaps form in his mind some order of arrangement; but the system of botany now in use, neglecting the most conspicuous parts of the flower, is founded upon the observation of small parts of it, which a common observer might not notice.

System is necessary in every science. It not only assists in the acquisition of knowledge, but enables us to retain what is thus acquired; and, by the laws of association, to call forth what is treasured up in the storehouse of the mind. System is important, not only in the grave and elevated departments of science, but is essential in the most common concerns and operations of ordinary life. In conducting any kind of business, and in the arrangement of household concerns, it is indispensable to the success of the one, and to the comfort of those interested in the other. The very logical and systematic arrangement which prevails in botanical science, has, without doubt, a tendency to induce in the mind the *habit and love of order;* which, when once established, will operate, even in the minutest concerns. Whoever traces this system through its various connexions, by a gradual progress from individual plants to general classes, until the whole vegetable world seems brought into one point of view; and then descends in the same methodical manner, from generals to particulars, must acquire a habit of arrangement, and a perception of order, which is the true *practical logic.*

The study of botany seems peculiarly adapted to females; the objects of its investigation are beautiful and delicate; its pursuits, leading to exercise in the open air, are conducive to health and cheerfulness. It is not a sedentary study which can be acquired in the library, but the objects of the science are scattered over the surface of the earth, along the banks of the winding brooks, on the borders of precipices, the sides of mountains, and the depths of the forest.

A knowledge of botany is necessary to the medical profession. Our Almighty Benefactor, in bestowing upon us the vegetable tribes, has not only provided a source of refined enjoyment in the contemplation of their beautiful forms and colors; in their fragrance, by which, in their peculiar language, they seem to hold secret communion with our minds; He has not only given them for our food and clothing, but with kind, parental care, has, in them, provided powers to counteract and remove the diseases to which mankind are subject. For many ages, plants were the only medicines known, or used; but modern discoveries in chemistry, by forming compounds of previously existing elements, have, in some degree, superseded their use. Although the science of medicine has received much additional light from chemistry, it may perhaps, in modern days, have occupied the attention of medical men too exclusively; inducing them to toil in their laboratories to form those combinations which nature had done, much more perfectly, in the plants which they pass unheeded. It is probable that the medicinal productions of the animal and mineral kingdoms, bear but a small proportion to those of the vegetable.

When our forefathers came to this country, they found the natives in possession of much medical knowledge of plants. Having no remedies prepared by scientific skill, the Indians were led, by necessity, to the use of those which nature offered them; and by experience and observation, they had arrived at many valuable conclusions as to the qualities of plants. Their mode of life, leading them to penetrate the shades of the forest, and to climb the mountain precipices, naturally associated them much with the vegetable world. The Indian woman, the patient sharer in these excursions, was led to look for such plants as she might use for the diseases of her family. Each new and curious plant, though not viewed by her as a botanist would now behold it, doubtless was regarded with scrutinizing attention; the color, taste, and smell, were carefully remarked as indications of its properties. But the discoveries and observations of the Indians have perished with themselves; having no system for the classification or description of plants, nor any written language by which such a system might have been conveyed to others, no vestige, but uncertain tradition, remains of their knowledge of the medicinal qualities of plants.

The study of nature in any of her varieties is highly interesting and useful. But the *heavenly bodies* are far distant from us, and were they within our reach, are too mighty for us to grasp; our feeble minds seem overwhelmed in the contemplation of their immensity.

Animals, though affording the most striking marks of designing wisdom, cannot be dissected and examined without painful emotions.

The *vegetable world* offers a boundless field of inquiry, which may be explored with the most pure and delightful emotions. Here the Almighty seems to manifest himself to us with less of that dazzling sublimity which it is almost painful to behold in His more magnificent creations; and it might almost appear, that accommodating the vegetable world to our capacities, He had especially designed it for our investigation and amusement.

The study of botany naturally leads to greater love and reverence for the Deity. We would not affirm that it does in reality always produce this effect; for, unhappily, there are some minds which, though quick to perceive the beauties of nature, seem, blindly, to overlook Him who spread them forth. They can admire the gifts, while they forget the Giver. But those who feel in their hearts a love to God, and who see in the natural world the workings of His power, can look abroad, and, adopting the language of a Christian poet, exclaim,

"My Father made them all."

In following the course laid down in our botanical text-book, the pupil is first introduced to the analytical part of botany; she is presented with flowers of the first ten classes, and having learned to distinguish them scientifically, is then introduced to those which are more complex in their relations, until the representatives of the twenty-one classes of vegetables are all brought under review.

After having learned to assign plants to their appropriate classes, the pupil is taught the relations of each part of a vegetable to the whole organized being, the external varieties of roots, stems, leaves, corollas, &c. with their physiological uses. The pupil is next taught the various systems which have at different times been promulgated by men of science, with the rules of classification and arrangement which have been deduced from the nature of the mind, and of the objects to be classed; and made more minutely acquainted with the system of Linnæus, and of the natural history of individual plants.

Lastly is given a general view of the vegetable world, as respects geographical situation, and their successive changes during the year, their habits, food, diseases, &c.,

with observations upon the relations which the vegetable world bears to the other kingdoms of nature.

For a sketch of the history of botanical science, I must refer you to some of the last lectures in the work, whose outlines I have now laid before you. Before leaving this subject I must again repeat what has so often been urged upon you, that botany is a practical science; and that during the season of flowers, you should diligently collect specimens of every new species that appears.*

LECTURE XX.

Mineralogy and Geology.

> "Lo! Vanity, with dazzling gems adorned,
> Flaunts proudly by:
> While Science pores upon a specimen
> Rough from the bosom of its native mine."

THE science of Mineralogy has not yet received from our sex that attention which it deserves, or which it is undoubtedly destined to command. We do not expect, or wish to see you devoting that time to this study which may be needed for other pursuits; but a very little attention to the subject, especially after you have become acquainted with chemistry, will enable you to comprehend the general features of the science, and will render cabinets of minerals something more to you than collections of glittering stones. Let us suppose (a very common case) a coterie of fine ladies visiting a scientific collection, and while the learned professor or proprietor is politely explaining to them the properties and peculiarities of the substances, or the mode of arrangement which he has adopted, they are evidently paying no attention to all this, but exclaiming to each other, "*How sweet this is!*" "*how splendid!*" "*what beautiful ornaments that would make!*" or, perhaps, appearing wholly indifferent as to the objects which they had, professedly, come to examine. Now, all that I plead for, is, that you may have enough of science to lead you to wish for more; enough to render you interesting companions to men of science. They will not generally expect more of you, than that you should be attentive listeners, or be able to suggest subjects for their explanation. Yet should you chance to become sufficiently acquainted with any branch of science to enable you to impart information, I know of no law, either of morality or propriety, which would be violated by your modestly communicating that knowledge to others; neither do I think any man of real science would be displeased to find a lady capable of supporting conversation on scientific subjects.

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* Botany, it will be seen, is more briefly treated of in these lectures than most other branches of education; this is owing to the peculiar nature of the science, which, in order to be understood, should be illustrated either by drawings or natural flowers. A mere *outline* of botany can be of little use to those who are unacquainted with the science: to those who have a practical knowledge of it, compendiums are neither very interesting nor useful. Like the objects of the study, botany needs to be seen as a whole, in order to show its beauty and utility. Those who only look at the Greek names of classes and orders, not unfrequently acquire a prejudice against the science, which one judicious lecture from a practical botanist might remove.

I shall now, as briefly as possible, give you some of the leading traits in the science of mineralogy, with its subordinate branch, geology.

Minerals are inorganized bodies, possessing neither life, nor the power of voluntary motion. Mineralogy teaches their properties and relations, and the method of describing and arranging them; it comprehends not only the study of solid bodies, such as earths and metals, but gases and liquids—of all matter that is not either animal or vegetable.

Minerals are *homogeneous*, (simple,) or *heterogeneous*, (compound.) *Simple minerals* are so called, not in reference to the *elements* which compose them, for in this view few are simple; but as they appear to the eye to consist of one uniform mass. The simple minerals only, are the subjects with which mineralogy is concerned. Thus lime is simple in its structure, though, chemically considered, it consists of carbonic acid and lime.

Compound Minerals present to the eye an aggregation of different substances; as granite, which is composed of quartz, mica, and feldspar. The compound minerals usually exist in large masses; as rocks, and mountains: the study of these constitutes geology. Some knowledge of the simple minerals is necessary before commencing geological studies. "The distinctions which exist between different *rocks* must depend on the nature of the simple minerals which enter into their composition, or on the mode of aggregation; and the diversity of aspect, exhibited by compound minerals, even when bearing the same name, is so great, as to render it necessary very critically to examine the simple minerals of which they are composed."*

We perceive then the intimate relation between mineralogy and geology. Mineralogy has also a very intimate connection with chemistry. A mineralogist may examine all the external characters of a mineral, hardness, color, fracture, lustre, specific gravity, &c., and according to circumstances, give it a name and place in his classification; but, in order to know its constituent elements, its degree of fusibility, the manner in which it is affected by acids and other substances, chemistry must afford its aid. Berzelius, a celebrated Swedish mineralogist, remarks that each science, in order to be perfect should contain within itself all that is necessary to its full development, and yet so far from this, at the present day there is a connection more or less intimate between all the branches of human knowledge, so that they may be considered as forming *one universal science*, the knowledge of any one branch, throwing light upon all the others.

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* Cleaveland's Mineralogy.

One of the most curious and interesting branches of mineralogy, is the study of crystals, or as it is termed, *crystallography*. The very singular and mysterious agency which operates in the atoms of different substances, producing in each its determinate form, as of cube, prism, rhomboid, &c., is no less wonderful than the phenomenon of the vital principle in organized beings.

The mode of obtaining crystals of alum, blue vitriol, &c., for baskets and other ornamental work, is familiar to many ladies: they know that the mineral must first be dissolved in water and the solution slowly evaporated, that the particles of alum or other substance separating from the water, will unite and form little crystals which float on the surface, until their weight, increased by the accretion of new particles, causes them to fall through the liquid.

Alum *(sulphate of alumine and potash)* forms crystals of eight sides, or octahedrons.

Blue vitriol *(sulphate of copper)* forms prismatic crystals of four, six, or more sides.

Common salt *(chloride of sodium*, or muriate of soda) crystallizes in cubes. The crystallization may be disturbed, so as not to present the primitive form of the crystals; but it is ascertained that every mineral has a tendency to its peculiar form of crystallization. The ultimate atom of the mineral is supposed to be of the same figure as the primitive form of its crystal.

The term crystal is from the Greek, *krustallos*, which signifies ice. The ancients believed that crystallized quartz, or rock crystal, was water congealed by extreme cold. Mineralogists were for some time divided as to the proper methods of classing the substances which were objects of their investigation. While some contended that the *species* of minerals, should be formed wholly upon their external characters; others as strongly insisted upon an arrangement founded wholly on chemical principles, or the constituent elements of the minerals. The wiser course has, of late, been allowed, of permitting mineralogy to receive the light which chemistry is able to throw upon it, without relinquishing any advantage which it may otherwise possess.

In arranging a cabinet of minerals, it is necessary to fix on some method of classification, as a guide.* Cleaveland makes four classes of minerals; 1st, *substances not metallic, composed entirely, or in part, of an acid.* This class, he divides into *four orders;* these he divides into *genera*, and these again into *species.*

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* Cleaveland's Mineralogy is perhaps more generally followed than any other in this country. Emmons's is a less expensive work, and very clear and concise.

The 2d class is Earthy Compounds, or Stones.
The 3d class is Combustibles.
The 4th class is Ores.

If you have but few substances at first, and commence arranging these scientifically, your interest in the subject will increase, and your collection will no doubt receive additions from various quarters. Every walk and every journey, may present you with something for your cabinet, and a new interest will thus be given to the face of nature. I should here observe, that you must not expect to be able, without assistance, to ascertain the name of a mineral, as easily as you find, by botanical analysis, the name of a plant. In mineralogy, you must at first depend chiefly on the opinions of those who have a practical knowledge of the science; that is, you will need to have a practical mineralogist label your specimens, except in the case of such common substances as you already know by their popular names. After having seen, and handled a mineral, and placed it in its proper situation in your cabinet, you will seldom forget its appearance and name; you will, by attention, acquire a facility in distinguishing specimens; and names which at first seemed hard and difficult to be remembered, will become as familiar as the most common words.

We will suppose you have a specimen of the *anthracite coal*, called Lehigh, Schuylkill, &c., according to the name of the river near which it is obtained. You wish to know where to place this mineral in your collection, and to ascertain its character. In the first place, you must consider in which class it is placed. The third class (in Cleaveland's work) contains *combustibles;* this substance being a combustible, you will perceive must be in the third class of minerals; where you will find the species, hydrogen gas, sulphur, bitumen, amber, and diamond, which burns brilliantly in oxygen gas; and next to diamond, you find anthracite, which is the sixth species in the class. You are then directed to the page which contains a minute description of the substance in question, with its varieties, localities, and uses.

In this way, you may proceed with any other mineral, whose common name is known to you; but without much practical knowledge, you will not acquire sufficient accuracy in chemical analyses, or, in ascertaining the specific gravity, and some other external characters of minerals, to be able to learn, by your own investigations, the names of unknown minerals.

Geology.

To females, geology is chiefly important, by its effect in enlarging their sphere of thought, rendering them more interesting as companions to men of science, and better capable of instructing the young. Especially does geology afford important aid to religion by confirming the truth of revelation. Infidels are confounded by the undeniable truth, that as the structure of the earth is investigated, and the secrets of its interior brought to light, the strictest coincidence is observed between them, and the facts recorded in Scripture. "I believe," says Professor Silliman, "the period is not far distant, when geology will be admitted into the train of her elder sister, astronomy, and that both will be eventually hailed, as the friends and allies of revealed religion."

The physical history of the Deluge is every where inscribed upon the surface of the earth; upon its chasms and cliffs, its valleys and mountains. For a knowledge of the moral cause of these convulsions, we must look to the Scriptures; we there find that "God seeing the wickedness of man was great on the earth, that every imagination of the thoughts of his heart was only evil continually, and that the earth was filled with violence, resolved to destroy man by a flood of waters." We find that "the waters prevailed upon the earth an hundred and fifty days, and that all the hills under the whole heaven were covered."

This one grand proof of the Scriptures, offered by geological science, is enough to entitle it to the attention of the Christian, for it furnishes sensible demonstration, broad and stable as the earth, of the truth of that book, which traces man from his creation and first planting upon this globe, and carries him into eternity, raising the curtain between him and the invisible world; of that book, without which we should have no knowledge but that afforded by the dim and uncertain light of nature, that our souls are immortal, and that man dieth not like "the beasts that perish." Geology leads us to view the globe upon a great scale, to meditate upon the bold and romantic scenes of nature, to survey mountains and valleys, as sunk or raised by great convulsions of the earth, to trace the hand of time in shattering and crumbling the hardest rocks; to mark the little brook and the majestic river, alike bearing in their course the sands thus formed, and depositing them upon their banks, or at their mouths, thus forming new land in the dominions of water; and again, to see lands in their turn inundated, and overflowed.

To one acquainted with geological facts, and interested in the science, even the barren rock, the bleak mountain, and the gloomy mine, are objects of attention. Ancient buildings and venerable ruins are interesting, both as triumphs of the art of man, and memorials of the decay of his labor; but mountains and precipices are the workmanship of Almighty hands. Volcanoes and earthquakes are overwhelming manifestations of His power. In beholding these phenomena, we confess that "the Lord reigneth, and is clothed with majesty."

We shall not attempt to give a view of all the important principles of geology, but present you with a very general sketch of the science, hoping it may not be uninteresting to those who already possess some knowledge of the subject, and may induce others to devote some attention to this interesting branch of natural science.

The elementary substances which form the solid matter of the globe, are, 1st, *Earths;* 2d, *Metals;* 3d, *Inflammable Principles;* and 4th, *Alkalies.*

THE EARTHS are	*Silex,* *Alumine,* *Lime,* *Magnesia.*
PRINCIPAL METALS,	*Iron,* *Manganese.*
INFLAMMABLE PRINCIPLES,	*Sulphur,* *Carbon.*
ALKALIES,	*Potash,* *Soda.*

These are the elementary substances which enter into the composition of the principal masses of minerals found upon the surface of the globe, and in the interior as far as man has yet penetrated; gold, silver, diamond, and other rare minerals, are found in smaller masses, and in veins, constituting but one part in twenty, of the solid parts of the globe.

Earths.

Silex, or *siliceous earth,* exists nearly pure in flint and quartz; it produces a great degree of hardness in all stones, of which it forms a part. Silex forms a part of almost all rocks and stones. *Alumine, (argilla,)* or pure clay, is seldom found, although it is very common in a mixed state; it is soft and smooth to the touch. Rocks which contain a considerable proportion of alumine are termed *argillaceous. Lime. (calx.)* This earth combined with an acid called carbonic, forms *limestone, marble,* and *chalk,* (carbonates of lime,) distinguished from each other by different degrees of hardness. Lime united with sulphuric acid, forms a stone called *gypsum,* (sulphate of lime,) which is softer than limestone, and does not, like that, effervesce with acids. Lime, mixed with common clay, forms marl.

Magnesia is seldom found pure in nature; it forms an ingredient in some rocks, to which it communicates a smoothness, a striped texture, and sometimes a greenish color.

Metals.

Iron forms a part of many rocks and stones, giving them a variety of coloring, and increasing their weight. *Manganese* communicates to rocks a dull reddish color, inclining to purple, and a dry and burnt-like appearance.

Inflammable Substances.

Sulphur is found in large masses, combined with oxygen, forming sulphuric acid; it unites with lime, and forms gypsum, or plaster of Paris.

Carbon, or *Charcoal*, is a constituent of many slate rocks, giving them a dark color; it is the principal constituent of that kind of coal which is found in beds. Carbon combined with oxygen, forming carbonic acid, is combined with all limestone rocks.

Alkalies.

Potash and *Soda*. These alkalies do not exist in rocks to a great degree, but soda forms an important constituent of the water of the ocean and rock salts.

Besides the elementary substances above enumerated, we will mention *muriatic acid*, which, combined with soda, forms salt; and *phosphoric acid*, which, combined with lime, is a principal constituent of animal bones; the latter acid is found in some limestone beds, but rarely occurs in the mineral kingdom.

The few elementary substances which we have now described, form, either separately, or combined, all the simple minerals which compose rocks.

You will find it difficult, without some knowledge of chemistry, to understand in what manner these elementary substances combine with others, forming a great variety of minerals, or rather you may be surprised that when closely combined, they can be separated from the materials with which they are united. The examination of the elementary bodies, earths, metals, inflammable principles, and alkalies, properly belongs to the department of chemistry; and the study of simple minerals, belongs to the science of mineralogy.

Simple Minerals.

It is difficult to procure pure specimens of all the elementary principles, but the simple minerals are very common, and should be procured in the commencement of geological studies. The most important simple minerals, which enter into the formation of rocks, are as follows:

Quartz,
Felspar,
Mica,
Talc,
Chlorite,
Hornblende,
Limestone,
Gypsum,
Slate, or Argillite.

These minerals are termed the alphabet of geology, and you could no more learn to read words, without a knowledge of the letters which form them, than you could learn to distinguish the different rocks, without a knowledge of the simple minerals of which they are composed. We will now examine the most striking characteristics of these minerals.

1. *Quartz.* This is the hardest mineral of which rocks are composed; it strikes fire when struck with steel; it is commonly white, though sometimes red, brown, or yellowish, and sometimes transparent. It is composed of silex, with a small portion of alumine. It is infusible, or cannot be melted when unmixed; but with soda or any other alkali, it melts easily and forms glass. Quartz exists in *veins*, and sometimes in large *beds;* even whole mountains are found composed of this mineral, in grains united without any cement, called *granular* quartz. Combined with alumine and iron, quartz forms *jasper.*

2. *Felspar* is less hard than quartz, is more brittle, and possesses a shining lustre. It is of various colors, white, yellowish, green, and flesh-colored. Felspar contains more of alumine and less of silex than quartz, with thirteen parts in a hundred, of potash.

3. *Mica* consists of very thin glittering leaves, *(lamina,)* which may be easily separated with a knife. Mica is of different colors, white, black, and sometimes yellow, like gold ; for which it has been mistaken by those who only judge of minerals by a superficial observation.

4. *Talc.* This is similar in many respects to mica; the plates are not like mica, elastic ; it is usually of a green color, sometimes of a silvery white ; it feels smooth like soap, to the touch.

5. *Chlorite,* (derived from a Greek word, *chloros,* signifying green,) is of a green color, and often passes by insensible gradations into talc ; it contains less of silex than is found in either mica or talc, but more of magnesia and the oxide of iron, to which it owes its color.

6. *Hornblende* is of a blackish, or dark green color, heavier than quartz or felspar, but not so hard, when scratched with a sharp-pointed instrument ; the streak is a light green ; this mineral is sometimes found in large masses, forming entire mountains, but more frequently it is found as a part of compound rocks, called trap-rocks, the origin of which has, among geologists, given rise to various opinions. Hornblende contains more of the oxide of iron, than any of the simple minerals ; for this reason, it is more deeply colored. A very common mineral called *serpentine,* from its spotted color, resembling the serpent's skin, is formed by a combination of hornblende with talc, or chlorite, often passing by insensible gradations into one or the other of these minerals.

7. *Limestone,* or *Carbonate of Lime,* when pure, is composed of lime and carbonic acid, in the proportions of fifty-seven parts lime, and forty-three carbonic acid, but the limestone is often combined with magnesia, alumine,

silex, or iron. All limestones may be scraped with a knife; they effervesce when acids are applied to their surface: this latter property is an important test of the presence of lime in rocks. There are a great many varieties of limestone rocks, from the hardest marble to chalk. Gypsum, or sulphate of lime, is of a whitish color; it is much softer than carbonate of lime; it is found in beds, but not constituting rocks and mountains, like limestone. It is, as its chemical name, sulphate of lime, would denote, a compound of lime and sulphuric acid. It is also called plaster-stone, and, from the place where it was first discovered, plaster of Paris.

8. *Slate*, or *Argillite*, (in German called *schistus*,) is of a bluish or gray color, with a silky lustre; the structure is such, that in general it admits of being split into thin plates, as in the slate which is used for the roofs of houses, and in writing-slates. By being united with a greater portion of carbon, it passes into a soft, dark, slaty bed, called *shale*.

We have enumerated the elementary principles which enter into the composition of minerals, and considered the simple minerals, which, either separately or combined, form rocks and mountains. In order to know minerals, specimens must be examined, and carefully compared with descriptions; so that you can, without any difficulty, distinguish a piece of quartz, or mica, or any of the other simple minerals, and can also recognise them when you find them in a state of combination with others. This then will be the first stage in your geological study, to know the elementary principles, and the simple minerals; and to procure specimens of the latter, your first step towards collecting a geological cabinet. You will of course understand, that each specimen is to be labelled and arranged in the order in which these have been described.

We will now explain to you, how the simple minerals just examined are combined, to form the compounds which constitute rocks and mountains. You must, however, recollect, that in many cases these simple minerals themselves are found in large masses; rocks, and even mountains of quartz are known to exist; limestone under various forms, often that of pure carbonate, is said to constitute about one-eighth of the known substance of the earth. Slate, or argillite, in nearly a simple state, forms rocks and mountains; but there are compound rocks to be considered, which in the structure of the earth are of far greater importance than the simple minerals.

Compound Rocks.

Granite. Here is a piece of a rock called *granite;* you will perceive three distinct substances, which you will recognise to be quartz, mica, and felspar: the *quartz* is white, and has a crystalline appearance; it seems to consist of irregular grains, or, according to the geological term, it is *granular.** The *mica* is distinguished by its shining black scales, which you can easily divide by the point of a penknife. The *felspar* is here flesh-colored; it seems to consist of finer particles than the quartz, resembling the rough edge of porcelain ware.

You must not, however, expect to find exactly the same appearances in every specimen of granite; sometimes the quartz is gray, or smoky, the mica varying in color through various gradations, from a silvery white to black, and the felspar is often of a snowy whiteness. Granite lso varies in its constituent parts. We sometimes find *talc* n the place of mica, forming *talc-granite, chlorite* forming hloritic granite, and hornblende, forming *sienite.*[*]

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* This is said to have given rise to the name Granite.

Gneiss. This name was given to the rock we are now o examine, by German miners; it resembles granite, in eing composed of the same materials, but with less felpar and quartz, and these in grains finer and less distinct han in granite. The mica is often arranged in thin eaves,[†] or layers; the perfect gneiss rocks may be split in he direction of the leaves of mica.

Although between a perfect specimen of gneiss and ne of granite, we might perceive a marked difference, et when the granite appears in fine grains with more of nica and less of felspar, it passes into gneiss, and it is by o means easy to ascertain the exact point where the one asses into the other.

Mica Slate is composed chiefly of quartz and mica, he latter being most abundant, often reflecting the rays of ght with much brilliancy. This rock is more slaty than neiss: the layers of mica are sometimes contorted or bent ut of a straight course. Mica slate sometimes varies into neiss and granite, though in its perfect state its character ay be easily recognised.

The three rocks which we have now examined, viz. ranite, gneiss, and mica slate, are, as you see, all comosed of similar ingredients, but in different proportions, nd differently arranged; they form a great portion of the rincipal mountain ranges upon the face of the globe.

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[*] So named from Sienna, in Egypt, where this rock was anciently sed for monuments.

[†] This kind of structure is called *foliated*, from the Latin word *folium*, a leaf.

Having now instructed you in such preliminary knowledge as seemed necessary to enable you to comprehend the general principles of the science, I shall now offer the following:

Outline of Geology.

Geology is the science which exhibits the structure of the globe, and the materials of which it is composed, as far as they have been revealed to human observation. It is supposed by most geologists that the materials of the earth were once in a fluid state, and that the heaviest minerals took the lowest place. It appears evident that the earth very gradually became fitted for the habitation of men and animals. The six days of the Creation, spoken of in the first of Genesis, are supposed to have been six *periods* of time, of a length which must have comprehended many ages. That the *day* spoken of in Scripture was neither a period of twenty-four hours, or from sun-rise to sun-set, is manifest not only from geological observation, but from the language of the Bible. After enumerating the various days or periods of the creation, the sacred historian speaking of them all under one general head says, "In *the day* in which God made the world," &c. It is also said in Scripture that "with the Lord a thousand years are as one day, and one day as a thousand years."

Without attempting to go minutely into the subject of the earth's formation as explained and taught by modern geology, I shall merely notice a few of its most prominent facts and principles.

Primitive Rocks.

It is found to be a fact that there is a class of rocks the materials of which are heavier and more compact than ny other, and which never contain any remains of aniials or vegetables; they evidently appear to have lain elow all the rock formations which have been discoered. These are called *primitive rocks*, being, as it supposed, the first formed. They are the following:

Granite,
Gneiss,
Mica Slate,
Hornblende Rock,
Talcose Rock,
Granular Quartz,
Granular Lime Rock,
Sparry Lime Rock,
Primitive Argillite.

Granite, as has been remarked, is composed of quartz, elspar, and mica; it is found in vast quantities in many ountries; it constitutes a large portion of many of the highst mountains; it forms a siliceous soil, not favorable to veetation, and makes a beautiful and durable building stone.

Gneiss. This rock is composed of the same materials s granite, viz. quartz, felspar, and mica; but the mica is rranged in parallel layers.

Mica Slate is composed chiefly of quartz and mica; he mica usually predominates. It disintegrates more apidly than granite or gneiss.

Hornblende Rock consists of hornblende and felspar; hen the felspar is in disseminated masses, it is called *ienite.* The predominant color of the rock is green, ometimes inclining to brown. The sienite variety is usceptible of a high polish, and forms beautiful pieces for rnaments.

Talcose Rock, is an aggregate of talc and fine grains f quartz, and generally some mica. It is a slaty rock, nd of a silver-gray color.

Granular Quartz is made up of grains of quartz, ithout any appearance of cement: when white, its sand s used in making glass.

Granular Lime Rock is made up of grains having a crystalline appearance: it receives a high polish, and is much used for monuments, pillars, and in building.

Sparry Lime Rock is made up of fine grains of carbonate of lime: it resembles Nova Scotia plaster. From this stratum, nitrogen gas, in vast quantities, is supposed to issue.

Primitive Argillite is a homogeneous rock, of a slaty structure. It is used for roofing buildings.

A long period must have been required to bring the materials of these primitive rocks into the compact and hardened state in which we now find them; for although the Deity could, in an instant, have changed the most subtle gases into rocks and stones, we have no reason to believe that he did not operate by second causes as much in the formation of the world as he has since done. Chemical and mechanical agencies undoubtedly were brought into action to produce the intended effects: the dry land at length appeared, the waters being gathered together into oceans, seas, lakes, and rivers.

After the first crust was formed around the earth, it is supposed that some great convulsion in the interior, either by means of volcanic fires, or the sudden percussion of internal gases producing earthquakes, burst asunder this outer coat, and shattered into fragments, or broke into larger masses, the rocks of which it was composed.

At the breaking up of the rocky pavement of the globe, and crumbling of primitive rocks, of which this pavement was composed, a new formation was made of the fragments of the other rocks, united together by a kind of cement. This induces the opinion that volcanic fires were agents in producing the great commotion which tore up the foundations of the earth. Fire would of course melt or fuse, in a degree sufficient to form the cement; for instance, where granite was thrown by the side of limestone, the silex of the one in contact with the alkali of the other, would form a substance like glass, which you know is produced by the melting of sand and alkali together.

Transition Rocks.

This second class of rocks are called *transition rocks*, because they are supposed to have been formed at the changing, or transition of the world from an uninhabited to a habitable state.

The rocks belonging to this class are,

Transition Argillite,
Calciferous Sand Rock,
Metalliferous Lime Rock,
Graywacke, and
Old Red Sand Stone.

Transition Argillite is a soft, homogeneous rock, mostly of a bluish or dark color. It composes the rocks of the Cohoes Falls.[*] There seems to be very little difference between this and the Primitive Argillite, and it is thought proper, by some geologists, to include them all in one class.

Calciferous Sand Rock is composed of grains of quartz and carbonate of lime.

Metalliferous Lime Rock is of a gray or slate color. It derives its name from being often found to contain silver and other metals.

Graywacke is an aggregate of sand cemented by clay; it often contains scales of talc and mica. The color is usually gray. This rock constitutes most of the Catskill and Alleghany mountains.

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[*] These falls are on the Mohawk, a little above its mouth.

Old Red Sand Stone is an aggregate of angular grains of quartzose sand, held together by a ferrugineous argillaceous cement. It forms a loose, red soil; it is valuable for building: when wrought, it is called *Free Stone.* It forms the bank of Connecticut river.

In the transition formation, we find the fossil remains of plants and animals; the plants are all of that kind, called in botany, *stiped,* that is, having no real stem, but a frond, like the ferns and palms. These plants differ in several particulars from those which have the true stem or *caulis,* and are therefore called *cauline* plants. The seeds of stiped plants never have two *cotyledons;* the stalks grow from the centre outwardly, and are therefore called *endogenous,** while the stems of cauline plants grow on the outside, and are called *exogenous.*

The fossil animals found in transition rocks are of races now extinct. At this second period of the world, a strange and appalling state of things existed; lizard-shaped animals, extending to monstrous dimensions; the mastodon and megatherium of enormous bulk, and various other huge and singular animals had possession of the earth, and rolled their vast magnitudes over ferns and palms, of a size corresponding to their own.

Secondary Rocks.

In the mean time, a new set of rocks was gradually formed from the ruins of both primitive and transition;

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* The two words, *endogenous* and *exogenous,* are derived from the Greek: the first signifies to grow internally, the other to grow externally.

these were called secondary rocks: other plants and animals were at this period created.

These rocks are,

Millstone Grit,
Saliferous Rock,
Gray Band,
Ferriferous Slate,
Ferriferous Sand Rock,
Calciferous Slate,
Geodiferous Lime Rock,
Cornitiferous Lime Rock, and
Pyritiferous Rock.

Millstone Grit is a coarse, harsh aggregate of sand and pebbles; the color is gray or reddish. It is used for millstones.

Saliferous Rock constitutes the floor of all the salt springs in the western country. It is used as a building stone.

Gray Band is a hard fine-grained gray rock, so compact that it may be considered homogeneous.

Ferriferous Slate is a hard siliceous rock, lying over iron ore. It often appears in the bed of the Western Canal.

Calciferous Slate. This rock often contains carbonate of lime; it embraces beds of plaster and shell-limestone; it forms, by disintegration, the best of soils.

Geodiferous Lime Rock. This name is given on account of small cavities which its contains, called *geodes.* This rock is found at Lockport and Niagara Falls.

Cornitiferous Lime Rock is made up of layers of shell-limestone, containing beds of horn-stone: from this circumstance, it receives its name—the Latin word *cornu,* signifying a horn. This rock is remarkable for its numerous caverns.

Pyritiferous Rock is a calcareous gray rock, abounding in iron pyrites.

At length, the earth being made habitable, man is formed; after a series of ages, the fountains of the deep are broken up; the monsters which stalked over the earth, or crawled through its fens and marshes, are suddenly overwhelmed by the deluge which was sent to destroy the human monsters who did "evil in the sight of God." Antediluvian remains of animals are found in Siberia, India, England, France, and Germany, and in various parts of America.

In considering the ruins of the deluge, we must not fall into the error which has been too common, of considering all fossils, shells, and other organic remains found imbedded in rocks, as marks of that event. It appears probable, from observations made upon the rock strata, that previous to this, the earth had undergone many changes; fire and water had been active in decomposing and crystallizing the mineral substances on the globe, and many animals and plants had become petrified and fixed, in their rocky beds.

The process of petrifaction consists in the gradual decay of the original substance of an organized being, while the place of the particles which pass off in a gaseous or other form, is supplied by stony particles, until the whole mass is thus changed. Some waters containing lime, possess the power of petrifaction in a high degree. The lime becoming concreted, takes the place of the original substance. Shells are often found petrified; they sometimes occur in large masses, forming rocks termed shell-limestone.

It is not within the scope of these lectures, to enter deeply into geological investigations. So many important facts and interesting observations crowd upon us, when glancing at this subject, that the longer we dwell upon it, the more it seems necessary to say. I must, however interesting the theme, hasten to close our remarks on Geology, and with this, our observations upon Natural Science in general.

We have spoken of primitive, transition, and secondary rocks; of the great primitive ocean which, as is supposed, once covered the face of the whole earth while it was yet "without form and void."—We have remarked upon the prevalent opinion of the gradual formation of the different classes of rocks, the changes which the earth must have undergone, previous to the existence of animals or vegetables; and that great and sudden catastrophe which, with the exception of Noah and those who were with him, buried in one vast, watery grave, the whole race of organized beings, including man, and beast, and the vegetable tribes.

Every where, upon and beneath the surface of the earth, are to be found traces of the deluge.—Masses of clay, sand and shells, mingled with bones and skeletons of huge animals, as well as those of a less size, can be accounted for on no other supposition, than that they were thus indiscriminately thrown together by the rushing of mighty waters. Caverns are discovered whose floors are covered with the bones of hyenas, wolves, bears, and other beasts of prey, who seem to have rushed together into these retreats, to avoid the impending destruction. From the appearances of the gnawed fragments of bones, it would seem that they fell upon, and devoured each other. These remains are covered by a light mud, evidently washed over them, as the waters of the flood were subsiding.

The period before the flood is termed *antediluvial* (from *ante*, before, *deluvium*, flood:) thus, those animals whose remains are found only in the oldest rocks, are called antediluvian relics. The ruins of the flood, the land which was then formed, and all appearances which seem the result of that event, are called *diluvial.* The various geological changes upon and beneath the surface of the earth which have taken place since the flood, are called *post-diluvial.* The deposits of soil or other changes effected by water, are called by the more general term *alluvial.*

Besides the three regular classes of rocks, and the various kinds of alluvions, there is another formation consisting of what are called basaltic or *superincumbent* rocks. These lie over the other rocks in strata not conformable to them. They are supposed by most geologists to be of volcanic origin : they are *amygdaloid,* which is an aggregate of hornblende particles of a dark gray or brown color, and *greenstone trap,* which is an aggregate of hornblende and felspar. The Giant's Causeway and Fingal's Cave in Ireland, and the Palisadoes on the Hudson river, are composed of basaltic or trap rocks. There are also other remains of volcanoes, as lava of various kinds, either dark colored and almost homogeneous, or of cemented grains, or whitish lava, consisting chiefly of melted felspar, and called *trachyte.*

Tertiary Formation.

The various layers of clay, sand, and marl, which are supposed to have been formed before the deluge, have received the name of *Tertiary* formation. The word tertiary, signifying three, is given in consequence of this lying over the secondary formation.

This formation, which is very extensive in France and England, has, in those countries, received much attention.

"The most remarkable discovery," says Bakewell, "that has been made respecting the tertiary deposits, is, that many of them contain the remains of *mammiferous*[*] quadrupeds, as perfect in their organization as any of the existing species of land quadrupeds, but most of them belonging to genera or species that are now extinct. The tertiary strata are further remarkable, for presenting the frequent alternation of beds containing the remains of marine animals, with other beds that contain the bones of land animals, or fresh water shells. It appears that tertiary strata were chiefly formed in detached inland seas, or lakes.

When commencing the science of geology, a pupil may very naturally imagine that to be but a trifling study, which directs the attention to a mere stone, such as may at any time be seen in the street; he may be ready to say, "It seems a very little thing, to know that this piece of a rock is granite, and that granite is composed of mica, quartz, and felspar." If any of you have been led to entertain thoughts of a similar kind, I trust you are now convinced that it is well to suspend opinions, till you have advanced beyond the mere elements of a study. You find that geology presents a noble field for research; that it carries the mind from the consideration of rocks and mountains, to the period of their creation, and to Him who created them: you perceive them to be silent and venerable historians, which, in a language that admits of no dispute, indicate the changes that the globe has undergone, since that period, when it "was without form, and void."

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[*] Such four-footed animals as nourish their young with milk.

Facts established by Geology.

According to the discoveries of geologists, it appears—*First*, that the whole surface of the earth was once covered by a void and formless deep. Chemistry proves that darkness and light, gases, liquids, and solids, mingled in one universal chaos, might, according to the laws of nature, have disengaged themselves, and formed a new arrangement.

Secondly, it appears from geology, that the waters were gathered into their respective places, and solids were separated from liquids; and that gases released from their unnatural union, rose by their specific levity, into higher regions.

Thirdly, we learn from geology, that after the earth had become fitted for the support of vegetation, *plants* were created, their remains being found in older rocks than those of animals.

Fourthly, we learn from geology, that after plants were created, the "*waters brought forth abundantly*," the remains of marine and fresh-water animals being found in older rocks than those of land animals.

Fifthly, we find by geology, that at this period *land animals* were created, and that they "multiplied greatly upon the earth."

Sixthly, we learn from geology, that after a long period of time had elapsed from the creation of plants and animals, the whole earth was again covered with water, which swallowed up vast multitudes of animals and vegetables, whose remains are daily becoming more and more revealed to human observation. We know, too, that many species and even genera of animals which existed previous to that catastrophe, are now extinct. We learn by geology, from the fact of beds of shells being found upon the highest ground at great distances from the sea, that the "waters covered the tops of the highest mountains;" and, from various other circumstances, it appears that they gradually subsided. Now, compare these facts as revealed by geology, with the events recorded in Scripture, between the first and tenth chapters of Genesis, and you will find an entire corroboration of what is there recorded.

Among all the diluvial and antediluvial relics, no human bones have yet been discovered. This, however, is a fact which ought not to excite surprise, when we consider how little is known of the fossil, and other ancient remains of Asia, which was the birth-place of the human race. At the period of the deluge, mankind had not probably extended far over the earth: at the approach of this event, they would naturally collect in groups for mutual assistance and protection, and in this condition probably met their fate. Seas may now cover their remains, or it may rest for future geologists to discover and bring forth the bones of those wretched and miserable beings who met with this signal retribution.

Organic Remains.

From what has been observed, you will readily see the vast importance of the discoveries of geologists and anatomists respecting organic remains; especially when taken in connection with established facts relative to the comparative ages of the different strata or layers of rocks. If a certain tribe of plants or animals are found imbedded in a certain rock formation, while the rocks of more recent origin are never found to contain such remains, we must believe they were of more ancient date than the species found in newer rocks.

"If it had been predicted a century ago, that a volume would be discovered, containing the natural history of the earliest inhabitants of the globe, which flourished and perished before the creation of man, with the distinct impressions of the forms of animals no longer existing on earth,—what curiosity would have been excited to see this wonderful volume! how anxiously would philosophers have waited for the discovery! But this volume is now discovered; it is the *volume of nature*, rich with the spoils of primeval ages, unfolded to the view of the attentive observer in the strata that compose the crust of the globe."*

This interesting branch of natural history has hitherto been little introduced into female seminaries; the reason of this is, undoubtedly, the want of popular, elementary treatises on the subject:† as this want shall be supplied, it is to be hoped that a study which so powerfully confirms the truth of revelation, and so evidently tends to elevate and enlarge the mind, will no longer be considered unnecessary, or unimportant. All who study nature, must, with the poet Montgomery, feel that

"There is a voiceless eloquence on earth
Telling of Him who gave her wonders birth;—"

And all such will be ready to exclaim with him,—

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* Bakewell.

† A small work of the Author's, entitled "The Child's Geology," is perhaps sufficiently comprehensive for beginners of any age.

"And long may I remain the adoring child
Of Nature's majesty, sublime or wild;
Hill, flood, and forest, mountain, rock, and sea,
All take their terrors and their charms from Thee.
From Thee, whose hidden but supreme control
Moves through the world, a *Universal Soul.*"

LECTURE XXI.

Mathematics—Arithmetic—Algebra—Geometry.

IN commencing my remarks on the study of matheiatics as a branch of female education, I shall introduce a assage from Hannah More's "Strictures," which will show ou the state of our sex, as to intellectual improvement, at e beginning of the present century, with her opinion as the proper means by which the existing evils might be emedied. "Women," says Mrs. More, "are little accusmed to close reasoning on any subject; still less do they ure their minds to consider particular parts of a subject: ey are not habituated to turn a truth round, and view it all its varied aspects and positions; and this is one ause of the too great confidence they are disposed to place their own opinions. Though their imagination is aleady too lively, and their judgment naturally incorrect; educating them, we go on to stimulate the imagination, hile we neglect the regulation of the judgment. They already want ballast, and we make their education consist in continually crowding more sail than they can carry. Their intellectual powers being so little strengthened by exercise, makes every little business appear a hardship to them: whereas serious study would be useful, were it only that it leads the mind to the habit of conquering difficulties."

In another part of her work, Mrs. More says, "The chief end to be proposed in cultivating the understanding of women is to qualify them for the practical purposes of life. The great use of study with them is to regulate their minds, and render them capable of fulfilling the duties of life. *To woman, therefore, I would recommend a predominance of sober studies*, those which will teach her to elicit truth; will give precision to her ideas; will make an exact mind, which instead of stimulating her sensibility, will chasten it; which will give her definite notions; will bring her imagination under dominion; will lead her to think, to compare, to methodize. Economy is the exercise of a sound judgment, exerted in the comprehensive outline of order and arrangement. She who has the best regulated mind will, all other things being equal, have the best regulated family."

It had not probably entered into the mind of the excellent woman whose judicious observations have just been quoted, that her sex, in thirty years from the time in which she advanced these ideas, would be admitted by general consent to share in those pursuits, which have the most undoubted tendency to produce the effects which she desired—a tendency to sober the imagination, develop the reasoning powers, and strengthen the understanding, so apt in the female character to be biassed by prejudice, or borne on the gossamer wing of a lively fancy, into the regions of error and folly. Mrs. More recommended the reading of Watts on the Mind, Butler's Analogy, and other writings of a grave and metaphysical character; but she did not (if indeed she was aware of their superior importance as aids to mental discipline) dare to speak of the higher branches of mathematics.

Watts observes that "Mathematics have a strange influence toward *fixing the attention of the mind, and giving a steadiness to a wandering disposition*, because they deal much in lines, figures, and numbers, which affect and please the sense and imagination." The same writer, in speaking of the tendency of the mind to "*narrow and low conceptions*," remarks that "this defect may be remedied by beginning with the first principles in geometry, and proceeding to the doctrine of quantities, which are infinite and innumerable. A little acquaintance with true philosophy and mathematical learning, would soon teach the mind that there are no limits either to the extension of space, or the division of body, and would lead it to believe that there are bodies amazingly great or small beyond their present imagination." The same writer further observes: "*It is owing to the narrowness of our minds, that we are exposed to the same peril in the matters of human prudence and duty.* In many things which we do, we ought not only to consider the mere naked action itself, but the persons who act, the persons towards whom, the time when, the place where, the manner how, the end for which the action is done, together with the effects that must, or that may follow, and all other surrounding circumstances; these things must necessarily be taken into view, in order to determine whether the action, which is indifferent in itself, be either lawful or unlawful, good or evil, wise or foolish, decent or indecent, proper or improper."

Females have been said, and not without reason, to be fluctuating in purpose, desultory in action, and unsettled in principle. Possessing vast power over the destinies of the world, by their influence over the other sex, they have often been the cause of contention and misery among nations, and of agitation and disquiet in the more limited domestic sphere. Of how much importance to the well-being of mankind is it, that this fickle, restless, yet powerful being should become consistent and reflecting, and learn to exercise her influence for the good of society! And how shall this be done? The question is answered by Watts, Locke, Stewart, and all other judicious writers on the power of education upon human character; for all have united in giving their testimony to mathematical studies, as one of the most important aids to mental discipline.

But it may be said, that these writers did not intend to apply their remarks to female education; that it was for the other sex for whom they wrote. Strange, indeed, if the nearer the mind of man resembles in its organization that of woman, the more he should be required to follow investigations calculated to fix the attention and strengthen reason, while for woman herself, this should be considered unnecessary and improper.

Women are often reproached for their *limited views, their low and narrow conceptions;* true it is, that their sphere of action tends to such results. The minute object towards which their attention is necessarily directed, the routine of their domestic duties and occupations, have a tendency to contract their minds.—How shall this be remedied? Let the direction of Watts on this subject be our answer. Although in his day he could not have anticipated this application of his remarks, yet had the appeal even then been made to his judgment in behalf of women, I am persuaded the justice of his character, and the benevolence of his heart would have secured a verdict in their favor.

Again, with respect to "our conduct in matters of prudence and duty," as Watts expresses it; "it is owing to the narrowness of our minds, that we are exposed to peril here." What human being more needs a sure guide in matters of prudence and duty than woman? Caressed and flattered, and yet watched with jealousy and suspicion—thrown off her guard by the most tender indulgence, while the slightest shadow of imprudence renders her liable to misconstruction and reproach,—does she not need an unerring standard of rectitude in her own bosom, a clear and acute sense of her own actual condition; prudence to direct her in the path of duty, and fortitude to sustain her under various trials? The mode of discipline by which the human mind may be brought to a calm, rational and dignified state, is pointed out in the passage of Watts to which we have referred. An enlarged and extended view of our various duties and relations towards ourselves, our friends, society, and especially towards our Maker, accompanied with virtuous principles and disciplined minds, cannot fail to secure respectability in this world, and happiness in a future state.

We are far from considering mathematics as the only instrument of that mental discipline which we feel to be so necessary for our sex; every branch of education which has a tendency to fix the attention, to impress truth upon the mind, and to produce the habit of reasoning closely and consecutively, is of importance in this view. We have already spoken of the studies of grammar, languages, geography, and history, as auxiliaries in this great work. The studies of natural science, mental and moral philosophy, are all of great utility in the formation of character: but the study of mathematics has, by philosophers, been considered the most direct way of controlling the imagination, perfecting reason and judgment, and inducing a habit of method and love of order.

The term mathematics is derived from the Greek verb *matheo*, to learn. This science treats of quantity, or whatever can be measured, as in geometry, or numbered, as in arithmetic and algebra. Mathematics is divided into *pure* and *mixed;* pure mathematics is the abstract consideration of quantity, without any reference to matter; mixed mathematics treats of magnitude as subsisting in material bodies, which are subject to certain laws, a knowledge of which constitutes natural philosophy. Mathematics here becomes united to natural philosophy, and hence arises the term *mixed* mathematics. The reasoning in mathematics is of that kind called *demonstrative*, or that which admits of positive proof. Thus the truths developed in the reasoning of the first proposition of Euclid, admit of no more dispute than the axiom, that things equal to the same, are equal to one another; the latter is self-evident, or apparent without any reasoning; but the truth of the former is not evident without the intermediate steps used in the reasoning.

Moral reasoning is of a different kind, and cannot be rendered thus positive. Dr. Paley asserts that "virtue is the doing good, in obedience to the will of God, and *for* '*he sake* of everlasting happiness." Now if he could have roved this by a train of reasoning founded upon a self-vident proposition, no one would distrust the assertion; et many do dispute it, which shows that it is not proved o complete demonstration, for the human mind cannot ispute such evidence. Some moral truths do however eem to admit a proof equal to demonstration. Thus the xistence of God is demonstrated, from the existence of natter, which could not have created itself. Taking then or an axiom, or first truth, what seems self-evident, we ould say that matter must have been made—it cannot ave made itself; therefore, since it does exist, it must ave had a *maker;* this maker we call God. Yet an theist might object to what we call a self-evident truth —he might say, we are not certain that matter has not xisted from eternity. He may, of course, object to our easoning, if he does not consent to our premises, or the oundation of our arguments. Yet demonstrative reasonng is not to render us unbelieving on moral subjects; ut the rather tends, by accustoming the mind to delibeate investigation and careful comparison of proofs, to deect the true, from the false, even in moral reasoning.

Mathematics is peculiarly a science of comparisons; hese comparisons are always exact, and may be made anifest to the senses. When it is said there are fifty ards of ribbon in a piece, there is an exact and sensible omparison between the ribbon in the piece, and the length f the yard measure, fifty times repeated.

A French writer* says: "Is it not certain that a young erson accustomed to the justness and accuracy of mathematical demonstrations, habituated to exercise his intellect in discovering the connection of ideas in a train of reasoning in order to prove a truth; is it not certain that such a one will carry into the world a penetrating and observing mind? that he will pursue other studies with greater facility, when his judgment and all his intellectual faculties have been exercised and strengthened by mathematical investigations? Many persons who have not sufficiently reflected upon the manner in which our faculties can be exercised to the greatest advantage, and upon the assistance which the sciences mutually render to each other, say that the mind can pursue any science to which it gives attention; that it is but lost time to occupy it with mathematics instead of the profession which is to be the business of life. But has the mind always the capacity for the study of any kind of science? Is it not necessary to form the judgment by preliminary studies? And are not the mathematics the best means of accomplishing this, and the method of reasoning and investigation acquired in this science a most important aid in all others?" Suppose of two young persons of equal talents, and who have devoted equal time to study, that the one is a geometrician, and the other has given her time more to other branches of knowledge—suppose these two commencing together some new science, as chemistry, or mental philosophy; we shall soon perceive the great advantage which the knowledge and practice of mathematical reasoning gives the one, over the other, in the mode of arranging facts, of developing truth, and performing such mental analyses as are necessary to disentangle, and bring to light the most complicated subjects. For the greatest discoveries which have enlightened the world, we are in-

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* Delpierre du Tremblay, author of *Lettres sur les Etude, et sur eur Rapport Avec L'Entendement Humain.*

ebted chiefly to those powerful minds which have first
rengthened and invigorated themselves at the fountains
f mathematical knowledge; Descartes, Mallebranche,
alileo, Kepler, Bacon, Locke, Newton, and Fontenelle.
lato wrote over the entrance into his school, “ He who
as not studied the Elements of Geometry cannot enter
ere.”

Arithmetic and Algebra.

Arithmetic is the lowest, and most simple branch of
athematics. The word is derived from the Greek *arith-*
os, signifying number. It is the science of *numbers.*
rithmetical calculation signifies operations performed by
arious modes of *adding*, *subtracting*, *multiplying*, or *di-*
iding. The word calculation, (in French called *calcul,*)
derived from a Latin word signifying little stones, be-
ause the ancients used such, instead of figures, in their
rithmetical computations. All our numbers are express-
d by different arrangements of the cipher and the nine
igures, called digits. These were learned from the Ara-
ians, who are said to have derived their knowledge from
ountries still farther east. The Greeks and Romans
sed the letters of their alphabet to express numbers.—
Thus, instead of the Arabic character for 1, they used the
etter I; for 2 they used II; for 3, III; for 4, IV, &c.

Of all the sciences, arithmetic is perhaps the most an-
ient, it having been taught by the Egyptians 600 years
efore Christ. It is said they attempted to explain every
hing by numbers, and even thought that an accurate
knowledge of these would conduct man to the fountain of
divinity, to God himself.

It is unnecessary to urge the importance of this study as a branch of female education, since this is universally admitted; but it cannot be unnecessary to recommend a more practical use of it than is generally made. I should blush for any pupil of this institution, who, after having studied arithmetic even but a short time, should be found ignorant of the proper method of keeping an account, or of making out a bill. The practical object of arithmetic is to teach you to do those things. It should also have a moral influence on the conduct, by teaching you to regulate your expenses according to your income. Many a man has been ruined, because his wife and daughters have not practised arithmetic;—and there are those who, resorting to dishonest methods for procuring wealth, have dragged out in a state's prison a miserable existence, which, by economy in their family, might have been rendered virtuous and happy. Suppose that a man in business earns a thousand dollars a year; which is probably as large an income, as, upon an average, is received by clergymen, lawyers, physicians, and merchants in this country;—in many cases, from this income, house-rent is to be paid, fuel and provisions furnished, children to be educated, and a family clothed. What, in such a situation, should be the management of a wife and daughters? Perhaps some may reason something in this way,—my husband or father has an income of a thousand dollars; now, I want this shawl which costs only thirty dollars, or this bonnet which costs only twenty, and this will be but a very little part of the yearly income.—I am sure it can be easily spared. But if the calculation were first made, how much of this sum must be expended in *necessaries*, it would be at once seen that very little could be afforded for superfluities.

But if the yearly income should be no more than four, or five hundred dollars, as is the case with many respectable clergymen, professors, and teachers in literary institutions, and others in our country, who are considered as holding a station in society above the lower classes, how very important that the wives and daughters of such men should be well versed in practical arithmetic. They should understand, that a hundred cents make a dollar; and that ten dollars, ten times repeated, make one hundred dollars, which is a large share of what their husbands or fathers have to spend for three hundred and sixty-five days. How absurd, then, for them to attempt to vie in expense with those who have an income four times greater! Nor is it a good calculation for women to attempt, by abridging themselves or their families of useful articles, to afford luxuries; for, so far from a slender income being concealed in this way, the contrast which must somewhere exist, in the wardrobe, furniture, or mode of living, only renders the want of means to carry out ambitious desires the more striking. The necessaries of life are alike essential to all; the conveniences are certainly desirable, but the luxuries may be dispensed with, and it is here that economy must begin.

The want of wealth is not mean or vulgar. Many of the most refined and gifted of our race have been subjected to the inconveniences of poverty. When we consider that the emoluments of a dancing-master are often greater than the salary of a judge upon the bench, we must cease to regard money as a badge of dignity. But we often see a woman, who, though she may have sufficient elevation of mind to prefer, for a husband, the intellectual man without wealth, to the richer, but ignorant one, yet who evidently betrays great uneasiness at being obliged to live in a plainer way than the wife of him, whom she would not herself have married. The female mind naturally loves elegance, and elegance easily becomes associated with the idea of expense. Plain and simple dress and furniture seem inelegant; and thus comes the longing for such things as may gratify delicacy and refinement of taste. Men, in general, show more just notions than women, of what constitutes real dignity. I lately met, in an English paper, with a paragraph describing the eloquence of Lord Chancellor Brougham, on a certain occasion, and the enthusiasm with which he was greeted by the vast concourse of people who were assembled to hear him;—but it was added, in conclusion, "his lordship was ill-dressed." How many well-dressed persons in that crowd are destined to live unnoticed, and to die unknown, while the name of Brougham has become associated with the literature and the laws of his country!

Does that venerable clergyman, that eminent jurist, or that distinguished man who has advanced the cause of literature and science, though clad in garments somewhat "the worse for wear," shrink abashed before the fop whose elegant and recherché costume constitutes his only claim to notice? Or, do we feel in the presence of the wise and good, any the less respect for them in consequence of plainness of apparel? It is the character, and not the dress, to which the mind pays its homage.

Let females, then, consider, that it is not the want of wealth, but a timid shrinking from the appearance of economy, that is really mean and vulgar. But there are many women who set a noble example of a dignified economy; who show the correctness of their judgment, by a strict attention to *practical arithmetic.* They can say without a blush, "*I cannot afford such an expense.*" Among these, is a lady whose family name is distinguished in our country;—her paternal home was a princely abode, where reigned luxury, elegance, and a profuse liberality; the resort of foreigners of distinction, and the polished of our own country;—all found a ready and magnificent hospitality, with splendid equipages at command, whenever they wished for an excursion through the beautiful and picturesque scenes which surrounded the mansion. But the statesman, the politician, the man who had held the first office in the republic, and had represented it in foreign courts, died, and left to his daughter no other *inheritance* than the gratitude of his country. But never, in her elevation, did this daughter appear with so much dignity as in the manner with which she submitted to her change of circumstances. She adopted a strict system of economy, and, without avoiding society, was contented to appear in it, at proper times, in a manner suitable to her altered condition. Calling one day to see a stranger, to whom she wished to pay attention, she apologized for having deferred her visit, by saying, she had been too much indisposed to take so long a walk, and adding with perfect cheerfulness, "*I cannot now afford to keep a carriage.*" A woman of less dignity would rather a stranger should have felt herself neglected—would rather she should have thought any thing, than to have made the mortifying confession, "I cannot afford the expense."

Another lady, who understands *practical arithmetic,* is the wife of a distinguished literary gentleman, and is herself eminent for talents, and known to afford her husband very important aid in some departments of his studies.

Their income is less than a thousand dollars per annum; but the position they occupy in society, and their connection with a celebrated literary institution, make it necessary that they should entertain a great deal of company. They have a family of young children, but the mother says she cannot afford to keep but one domestic. Now, by what magic do you suppose this lady educates her children, makes and mends the clothing for herself and family, aids her husband in his studies, is active in benevolent objects in society, and entertains a great deal of company? It is all done by *economy;* economy in time, in dress, furniture, and living. The family sitting-room, is the dining-room, nursery, parlor, and drawing-room. The stranger who is privileged to visit there, finds his hostess attired in the extreme of simplicity, though in a neat and becoming manner. While sustaining an animated conversation upon topics of important interest, she is also directing her little girls in their employments, overlooking the arrangements of the plainly furnished table, and simple repast. While at table the guest is not confused and troubled by any apologies, but the soul is feasted with conversation of an intellectual kind. The master of the house is no less calm than the mistress, during the progress of the various domestic operations around him; nor does it appear at all to lessen his dignity to see him bring in wood to replenish the fire, and by various other little attentions, manifest a desire of lessening the cares of his companion.

Who would not feel, on leaving such a scene, an increased respect for persons thus conforming with dignity to their real circumstances in life, doing, with very limited means, infinitely more good in society, than many wh are daily spending great sums of money with the foolish expectation of thus making to themselves a name!

Arithmetic teaches only the properties of numbers which *are known;* its calculations are carried on by the use of figures; but in algebra, *letters* are made to represent quantities that *are unknown.* It takes for granted the unknown quantity sought, and by means of one or more given quantities, proceeds, until the supposed quantity is discovered by some other known quantity to which it is equal. The first letters of the alphabet, *a, b, c,* &c., are commonly employed to stand for known quantities—the last, as *x, y,* &c. for unknown. By this process, many questions are solved, which could not be done by simple arithmetic. A knowledge of algebra is necessary in geometry, mechanics, astronomy, and all branches of science which depend on mathematical demonstration. To those who desire a thorough education, a knowledge of algebra must therefore be deemed of importance, since it leads the way to so many other sciences. Not that some knowledge of astronomy, natural philosophy, and geometry may not be acquired without the assistance of algebra; but this knowledge must necessarily be limited and imperfect.

Arithmetic may be considered as a germ, which contains within it the principles of algebra. The two sciences are intimately connected; a knowledge of the one throws light upon the other. Arithmetic being the more simple, some knowledge of it should be possessed before commencing algebra. Every step then taken in the latter science, will throw light upon the former, and processes, which, performed by arithmetical rules, appeared tedious and complicated, may, by algebraic principles, be rendered clear and simple. Besides the practical uses of this science, upon which we have so much insisted, the accurate analysis which it teaches, is an important means of intellectual discipline.

Some would refer the origin of algebra to Plato, because he first taught the principles of analysis, which are so necessary to the existence of this science; but it is generally attributed to the Arabians, from whose language the word *algebra* is taken. In its original meaning, it signifies a reduction of fractions. The first treatise on algebra is said to have been written by Diophantes, a philosopher of Alexandria, who lived in the reign of Antoninus, toward the middle of the second century. In the fifth century, Hypasia, the daughter of Theon, a celebrated geometrician, published a comment on the treatise of Diophantes. This comment, a learned French mathematician notices, as "exhibiting a depth of thought, of which few men are capable:" Hypasia may be considered [illegible] the first, who made of algebra a regular science. This woman, whom the same writer calls the "honor of her sex," was professor in the famous school at Alexandria, and filled, with distinguished credit, a place which has been rendered illustrious by many great and learned men. The people, stirred up by some who were envious of Hypasia's fame, accused her of political intrigues, and cruelly murdered her in the professor's chair. As the acquirements of this woman are recorded in history, as a wonderful phenomenon, we infer the general prevalence of ignorance among the females of that period.

Geometry.

Geometry, an important branch of matheence, takes its name from two Greek words, *ge*, land earth, and *metron*, measure, signifying to measure land. iis science is supposed to have originated in Egypt. cording to two very ancient historians, Herodotus and rabo, the inundations of the Nile carrying away their id-marks, the Egyptians invented the art of measuring d dividing their lands, in order that each might distinish his own territory, by its particular figure, and the rface which it was known to contain. Thus imperfect is geometry in its origin, commencing by a series of obrvations which were confined to actual substances. By grees, mankind began to generalize their observations particular facts, and geometry became a noble and ex. t science, constituting a firm basis on which many other iences are founded.

Geometry is the science of extension, and not only sigfies the measuring of land, but of the heavens also; for its aid, astronomers have been able to ascertain the diiensions of the heavenly bodies, the space through which iey travel, and their distance from each other. All the eductions and reasonings of geometry are founded on a w, simple truths, which are self-evident to all who poss common understanding. These self-evident truths annot be explained, since there are no truths of a more nple kind by which they may be illustrated. Any pern who does not perceive that a whole is greater than a rt, or that two things which are equal to a third, must equal to one another, must be considered as wanting in hat is expressively termed *common sense.* Thus it is that children who prove to be idiots, it is usually first obrved that they do not understand these simple, or as phiophers call them, self-evident truths. If a child old enough to comprehend the term *one*, does not understand that one and one make *two*, we have reason to fear that it has no understanding, or, in other words, is a fool. Thus the ready comprehension of self-evident mathematical truths, and the power to reason from these to less simple truths, is considered as a test of a clear and sound understanding.

Our sex have been allowed to possess the faculty of imagination, and the affections of the heart, in a superior degree; but we have been thought deficient in *reasoning powers*. Now it is the reasoning faculty which distinguishes the human species from the brutes: if woman is in reality devoid of this noble faculty, then is she a kind of intermediate link between man and the brute creation—and the Christian religion, like the Mahometan, should have provided, in a future state, some *middle region* for this being, who is neither to be, like the brutes, annihilated, nor like the nobler part of creation, entitled to a rank among superior intelligences. But it is unnecessary to urge any thing on this point: women have now little to complain of, with respect to liberality of feeling towards them, on the subject of education. Advantages are now placed before them; they may prove the strength of their reasoning powers in the study of mathematics, of logic, and even metaphysics, without fear of reproach for attempting to pass the limits, which nature has assigned for the operations of their minds. It is for you, young ladies, who are here assembled, to prove by your own example, that knowledge is not to be a curse to your sex; that it is to lead them *in* the path of duty, not *out* of it; that it is to make them better daughters, wives, and mothers; better qualified for usefulness in every path within the sphere of female exertions. By being enabled to see more clearly the peculiar obligations which devolve upon you in your various relations, and to discern the boundary between your duties, and those of the other sex, shall it be that you will the more seek to pass that barrier, which the Almighty, himself, in the peculiarities of physical as well as mental constitution, has established between the sexes? You are not called upon to lead armies, to make and execute laws, and to preside over public safety. But you may be called upon to preside over the domestic circle, to regulate families by your wisdom, and to guide and enlighten the youthful mind :—in the proper performance of these duties, will you need all that clearness of reason, and solidity of judgment to which a thorough and well-conducted education may conduce. The object in all attempted improvements in female education, should not be to lead woman from her own proper sphere, but to qualify her for the better discharge of those duties which lie within it. It is for you to prove by meek and gentle manners, by your pious walk and conversation, that the daughters of Eve may eat of the tree of knowledge, without danger or sin. No law, divine, or human, forbids that the female mind should seek to penetrate the mysteries of science—and may we not hope that the sad consequences of the disobedience of the first woman, will, in some degree, be averted from the earth, by enlightening the minds of her daughters?

But we have wandered from our immediate subject, in following a train of thought which naturally presented itself. We have spoken of the origin and meaning of geometry. It remains briefly to trace its progress. From Egypt, it is said to have been carried to Greece by Thales, who, not satisfied to teach the Greeks what he had learned from the Egyptians, enriched the science with many propositions of his own. Pythagoras afterwards successfully cultivated geometry, and added to it, among other propositions, that of the square of the hypothenuse. Anaxagoras and Plato studied to explain the quadrature of the circle; but Euclid, who lived four hundred years before Christ, and fifty after Plato, collecting all the truths that his predecessors had discovered, and adding many of his own propositions, may be considered as having established the science on a firm foundation. Of all sciences, none now remains so nearly as it existed in ancient days as that of geometry. The work of Euclid, although many improvements have professedly been made, still remains much as he left it.

When Natural Philosophy is illustrated by mathematical science, we term the study *mixed mathematics;* here is made a practical application of algebra and geometry. You should as far as possible connect with your investigations the idea of actual substances; for the mere theory of mechanics or optics is of little use, without a knowledge of their applications to the common objects around you. I recently heard a young lady, who had studied optics, call that a *shadow* upon the water, which was a *reflection*. Females are not, in general, as practical as the other sex; they are much less abroad, where the operations and phenomena of nature may be observed, and they find it more difficult to transfer their views from books to nature. You may learn much practical science from an unlettered farmer or mechanic, who, although he could not explain the principles of motion and force by mathematical demonstrations, might yet teach you many useful facts, learned by experience and observation.

In concluding this lecture, I would remark that it is far from my intention to depreciate those many excellent, and elevated women, who have honorably discharged their duties in life, without a knowledge of mathematics, or without those advantages for mental improvement which females at the present day enjoy;—such cases do not invalidate any of the arguments we have offered on this subject. These are the very women, who, with lofty views of female duty and influence, and a sense of the weakness of their sex, would be the first to plead that they might be better fitted to discharge their duties, to exert a more beneficial influence, and that their minds might be strengthened and enlarged by a judicious and liberal education.

LECTURE XXII.

Rhetoric, Criticism, Composition.

The studies of Rhetoric and Criticism, are more especially designed for the cultivation of those faculties of mind, called *taste* and *imagination*. Taste, by many writers, has been termed a simple, independent power, or sense; by Dr. Brown it is considered as a complex state of mind, which may be analyzed into *judgment*, and *emotion*. The human mind is formed with a susceptibility of certain emotions, as beauty, sublimity and ludicrousness; these are the emotions on which taste chiefly depends, or which, in conjunction with judgment, constitute taste. Thus a painter, having experienced the emotion of beauty, exercises his judgment in forming such combinations as may produce in others the same emotion. A poet must have experienced emotions, before he can, by an effort of art produce them in others; and he exercises his judgment in the selection and combination of his images, no less than the chemist, who puts together substances in order to produce a certain result. That is, both the poet and chemist *judge* of the fitness of ideas and of objects to produce their determinate effects.

For a clear and interesting explanation of the elements of taste, and of its three most essential qualities, refinement, delicacy and correctness, I would refer you to the interesting and useful system of Rhetoric, now adopted as a class book in this Institution.* The author of this work has taken up the subject in a philosophical and practical manner. He at once informs the student that the art of writing well, is not to be obtained by a set of rules, but that "the store-house of the mind must be well filled; and he must have that command of his treasures which will enable him to bring forward, whenever the occasion may require, what has been accumulated, for future use." He dwells particularly upon the necessity of mental discipline, especially the previous cultivation of the reasoning powers; and observes that "the student who, in the course of his education is called to search for truth in the labyrinth of metaphysical and moral reasonings, and to toil in the wearisome study of the long and intricate solutions of mathematical principles, is acquiring that discipline of the mind which fits him to distinguish himself as an able writer.

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* Newman's Rhetoric.

You will perceive that the different branches of knowledge we have already considered, are all conducive to one great end, that of enabling a person to compose with elegance and facility. And is this an object of little importance, even to our sex? We use the pen as our tastes, genius, or mental acquirements direct. Even the composition of a simple note of ceremony, attests the fact of mental cultivation, or the want of it; and a letter on the most common subject, plainly indicates what has been the writer's education. Higher efforts of mind, such as stories for children, religious tracts, and works in the various departments connected with education, are now considered as within the scope of female talents. But it must be remembered that these talents should be cultivated with the most assiduous care—that the various fields of knowledge should be explored, as far as possible, in order to become a successful candidate for literary distinction. The time has gone by, when a publication meets with indulgence, because its author is a *woman;* we must now expect to be judged by our real merits and titles to approbation.

Grammar and rhetoric bear to each other an intimate relation; the former teaches the method of speaking and writing with accuracy, the latter, of arranging our thoughts with propriety and elegance. The science of rhetoric is founded upon observations made by philosophers, of the nature and operations of the human mind, and by a critical analysis of the style, and an examination of the methods of arrangement of those authors whose works have been most generally approved. The chapter on Literary

Taste, in Newman's Rhetoric, is well written, and calculated to give just ideas of the peculiar merits of different authors; it also happily illustrates the proper use of rhetorical figures. The chapter on Style, is an interesting exposition of the qualities of a good style, and the modes of writing which characterize different individuals. This little work leads the pupil to a knowledge of the rules and principles of rhetoric, in an easy and simple manner, and has the merit of more originality than many school books, which profess to be improvements.

Blair's Lectures on Rhetoric have been deservedly popular: they are written in a pure and concise style; but the larger work is too voluminous for beginners, and the abridgment, as is usually the case, is a mere skeleton, without suitable illustrations.

In pursuing the study of rhetoric, as in the other branches of education we have noticed, you should make it your constant aim to render your knowledge practical: you should examine authors, with a view of discovering their peculiar beauties or defects, and notice their use of the various figures of speech; each of which you should accustom yourself to distinguish, wherever you meet them. This might be rendered interesting as an amusement. When several young ladies are passing leisure hours together, one might ask others to point out, in a certain page or chapter of a book, all the comparisons, metaphors, antitheses, &c. which could be found. The suggestion and proper uses of figures, must be the result of much practice in composition, as well as the fruit of learning. The study of rhetoric will not at once give you the power of writing with ease and elegance: this requires a knowledge of books, of nature, and of the human heart, a habit of deep and serious reflection, and a taste at once delicate and refined.

Criticism is ranked in this institution as a higher tudy than the elementary works on rhetoric ; it is indeed a lepartment of rhetoric, but so extensive, that it has been reated separately by some distinguished writers. The est works on this subject which are now before the pubic, are those of Kames, Alison, and Campbell. Kames's Criticism contains much valuable philosophy; the author ppears to have studied the human heart with considerble success: his style is agreeable, and he carries his eader along with him in an easy companionship. The tudy of this work is an excellent preparation for mental hilosophy; indeed it was, by the author, designed to old a middle rank between moral speculations and the tudy of the natural and mathematical sciences. Withut attempting a theory and classification of the passions, Lord Kames gives a variety of practical illustrations of heir operations and moving principles; and such as are alculated to be of great use to a young person on enterng into life. The greatest objection to his work on critiism is the occasional obsoleteness of the style, (his last dition was published as far back as 1761,) and a want of ystem in his arrangements. These faults may be remeied by the remarks of teachers, and care on their part to make a better arrangement. The practical part of critiism will not probably be acquired in a very great degree y the study of Kames, or any other author; but a new tock of ideas may be gained, and the power of making or yourselves critical distinctions.

Alison is a writer of peculiar beauty and sweetness: ne fault in his work, as a text-book on criticism, is that he confines himself to the subjects of beauty and sublimity, a sphere too circumscribed for so extensive a science. The politeness and respect with which Alison speaks of the "profound remarks of Lord Kames," furnish a pleasant contrast to the illiberality which writers often show towards those who have preceded them in any particular department of literature. The work of Alison is replete with beautiful passages, calculated to inspire the reader with noble and just sentiments. In his essays upon the beauty and sublimity of the material world, he leads the mind in a delightful manner to the contemplation of nature and its great Author. After expatiating on the moral effect of the study of nature upon the mind, he finely and piously observes: "There is yet, however, a greater expression which the appearances of the material world are fitted to convey, and a more important influence which, in the design of nature, they are destined to produce upon us: their influence, I mean, in leading us directly to *religious* sentiment. Had organic enjoyment been the only object of our formation, it would have been sufficient to establish senses for the reception of these enjoyments. But if the promises of our nature are greater—if it is destined to a nobler conclusion—if it is enabled to look to the Author of being himself, and to feel its proud relation to Him; then nature, in all its aspects around us, ought only to be felt as signs of his providence, and as conducting us, by the universal language of these signs, to the throne of the DEITY."

After remarking upon the effect of natural scenery upon elevated minds, he adds: "Even the thoughtless and the dissipated yield unconsciously to this beneficent instinct; and in the pursuit of pleasure, return, without knowing it, to the first and the noblest sentiments of their nature. They leave the society of cities, and all the artiicial pleasures, which they feel to have occupied, without atiating their imagination. They hasten into those solitary, and those uncultivated scenes, where they seem to breathe a purer air, and to experience more profound delight. They leave behind them all the arts, and all the labors of man, to meet nature in her primeval magnificence and beauty. Amid the slumber of their usual thoughts, they ove to feel themselves awakened to those deep and maestic emotions which give a new and a nobler expansion o their hearts, and amid the tumult and astonishment of heir imagination,

> 'To behold the present God
> On the rocks by man untrod,
> On the hill-tops wild and rude,
> On the cliff's deep solitude,
> Where the roaring waters move,
> In the darkness of the grove.'

"It is particularly on account of its moral effect that it s of so much consequence to encourage their instinctive aste for the beauty and sublimity of nature. While it pens to the mind of childhood, or youth, a source of pure nd of permanent enjoyment, it has consequences on the character and happiness of future life, which they are enabled to foresee. It is to provide them, amid all the agitations and trials of society, with one gentle and unreproaching friend, whose voice is ever in alliance with goodness and virtue, and which, when once understood, s able both to soothe misfortune, and to reclaim from folly. It is to identify them with the happiness of that nature to which they belong; to give them an interest in every species of being which surrounds them; and, amid he hours of curiosity and delight, to awaken those latent feelings of benevolence and of sympathy, from which all the moral or intellectual greatness of man finally arises. It is to lay the foundation of an early and of a manly piety: amid the magnificent system of material signs in which they reside, to give them the mighty key which can interpret them; and to make them look upon the universe which they inhabit, not as the abode of human cares, or human joys only, but as the temple of the LIVING GOD, in which praise is due, and where service is to be performed."

Composition.

The study of Belles Lettres, or of rhetoric and criticism, is introduced into education, principally for the purpose of improving the young in the art of composition. It is indeed pleasant to be able to judge of the performances of others; to know the causes of our approbation or disapprobation of literary works, to enter into the secrets of the mind, and explore its mysterious laws, to compare the productions of genius with those rules which nature suggests, and to observe the uniformity of her operations in all well-organized minds: all this is agreeable; but it is still more desirable, still more delightful, to be able of ourselves to *execute;* to catch the train of ideas, as they glide through our minds, and paint them in all their freshness and originality for our own future examination, or for the inspection of others.

Of all the enjoyments granted to mortals, this is probably the most exquisite and the most elevated; to behold before us the image of our own minds, the glowing transcripts of our own thoughts, as delineated by ourselves; it seems to assimilate us in some degree with the great Creator of mind, when we are able to render its operations visible. Many who are conscious of elevated thoughts are destitute of a power of expression suited to them; many in whom the fire of genius is smothered by ignorance and prejudice, feeling within themselves the workings of a latent intellect, sigh for education as the greatest of human blessings, as the means of elevating the mind, and rendering its operations sources of the highest enjoyment. Under the greatest disadvantages, the light of genius has occasionally burst forth, discovering upon the shoemaker's bench a tuneful and sentimental Bloomfield, or at the plough a noble and high-souled Burns. But instances are rare in which unaided genius acquires the confidence to come forth, and try her pinions: education is required by most minds in order to give the courage and skill necessary for effort in the regions of composition. And besides, we must acknowledge that genius is not a common gift; I mean that fire which, unless it can have vent, consumes the soul. And in this we see the goodness of our Creator; for genius is of too fine, too exquisite a nature to bear the rude contact of worldly things; it droops and folds its wings when calamities assail; even the imaginary sufferings of a flower transplanted from its own home, a rose plucked from its parent stem, or the agonies of a worm or insect, are sufficient to call forth its tender and plaintive wailings,—how then can it look upon human sufferings, poverty, oppression, injustice, treachery, pain and death? Indeed we often see that mind which exhibits unequivocal marks of genius, early fading away, as if the atmosphere of the world were too cold for its sensitive nature: thus have Henry Kirke White, and Lucretia Davidson,* and many others, gradually sunk to an untimely grave, apparently through an excess of sensibility.

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* Miss Davidson died at about the age of seventeen. A volume of her posthumous works, entitled "Amir Kahn, and other Poems," has

But is there no remedy for this? Must the fairest and best of human blossoms be given up to be chilled by the frosts, and blighted by the mildews of an ungenial world? Let a suitable and proper direction be given to sensibility; let it be disciplined and chastened. Let education be properly conducted, and then will *reason* and *judgment* be brought to sustain and guide the trembling, aspiring, ethereal spirit, which is ever shrinking from real evils, and refusing to look with steady eye upon the obstacles in the pathway of life. But, supported by reason and judgment, *sensibility* may learn to encounter evils, and to overcome difficulties;—especially does she need the aid of *religion* to reconcile her to earthly sufferings, in view of a happier future. I have spoken of sensibility, because I believe it always belongs to true genius, and to be the cause of those frequent failures in life which are observable among those who are highly gifted; but a proper mode of education may do much towards chastening, and giving it a right direction.

Lucretia Davidson, the lovely girl whose precocious powers have been the admiration of many, probably fell a victim to an extreme and morbid sensibility: many of you are aware that several years since, she was a member of this institution; some of you may remember her personally. She had, in her childhood, been indulged in her fondness for seclusion and solitary musings. Her education, owing to peculiar circumstances, had not been sys-

received much praise from critics. The British Reviewers spoke of it as an extraordinary production, comparing her to their favorite and lamented White.

tematically and thoroughly pursued. On her entering the Seminary, she at once surprised us by the brilliancy and pathos of her compositions,—she evinced a most exquisite sense of the beautiful in the productions of her pencil; always giving to whatever she attempted to copy, certain peculiar and original touches which marked the liveliness of her conceptions, and the power of her genius to embody them. But from studies which required calm and steady investigation, efforts of memory, judgment, and consecutive thinking, her mind seemed to shrink: she had no confidence in herself, and appeared to regard with dismay any requisitions of this nature. Even in geography, which was one of her studies, she found a difficulty in preparing herself for recitations. At the approach of an examination, she was agonized with the fear of disgracing her class by her appearance; and in order to calm her apprehensions, I had promised to ask her very few questions. When it came her turn to recite, instead of taking the subject next in order, which would have been an explanation of the "geological structure of the globe," and which the poor trembling girl had never felt an interest in knowing, I asked her to give some account of the peculiarities of the torrid zone. Miss Davidson's countenance brightened: she begun, with the sweetest tones of voice, to describe the vegetable wonders of those regions, the spreading bananas, the lofty bamboo trees, forests rendered impenetrable by the luxuriancy of vegetation, and blooming with perennial verdure and beauty. She spoke of the mighty elephant, the hippopotamus, rolling his enormous bulk along the rivers of Africa, the fierce lions and tigers, poisonous reptiles and ensnaring crocodiles, the great anaconda, winding his huge coils around his helpless victim; nor did she fail to describe that dreadful vampyre, which seeks the traveller in his hour of sleep, and gluts itself with his blood. She then, with a new and kindling emotion, spoke of the brilliant fire-flies which illuminate those regions in the night as with a mass of liquid light; of the bounding antelope, and of the beautiful gazelle, whose brilliant and fascinating eyes are the admiration of the beholder.

So vivid in my mind is the recollection of her animated and enthusiastic manner at that time, the bright flashing of her dark eye, and the glow of her brilliant complexion, that the conception appears like reality, and it seems as if she now stood before me, the living image of youthful genius and sensibility. But the grave has for many years shrouded her form, once so interesting. We will not here suffer our thoughts to rest; but will rather say with the poet:

> "Not to the grave, my soul,
> Not to the grave descend, to contemplate
> The form that once was dear!"

let us rather think of the spirit as disencumbered of its load of clay, and an inhabitant of a purer world.

I have introduced the character of this young lady to show you the great importance of early, mental discipline; for, lovely as genius and sensibility may be, in order to be useful, and adapted to the scenes of real life, they must be sustained by the other mental powers. We see the evils of suffering any one department of mind to usurp unlimited power over the other. If one could not be a fine writer, without becoming unfit for the duties of life; if talents were necessarily connected with eccentricities, I would at once warn all my sex from attempting to acquire these dangerous gifts; but I trust it is unnecessary for me to point out the many ladies who at this time hold an important standing in the literary world, and are yet among the most active supporters of social and religious institutions, who are equally distinguished for domestic virtues as for high mental endowments.*

But we are yet to go back to the first attempts of the pupil in the art of composition; this it is necessary to do for the benefit of the younger members of the institution, and of some others to whom the idea of writing compositions is new and appalling.

Those who are studying languages, will derive great assistance in composition from the habit of translating. It appears to me that this advantage has not been sufficiently estimated: were it indeed the only one, I should think it a sufficient compensation for the labor which is necessary in acquiring a language. If you take a fine passage of a Latin or French author, and attempt to translate it, the mind, gradually seizing upon the ideas, seems to adopt them as its own; and feeling itself elevated by this new acquisition, becomes capable of greater efforts.

In translating, particular attention should be paid to the exact import of words; thus, the word ***sentiment***, which, in English, is applied to opinions, is in French, restricted to the feelings of the heart, it being derived from the verb ***sentir***, to feel. The French would not then speak of *political sentiments*, but political *opinions;* they would speak of a sentiment of gratitude or love;—when you reflect on the origin of the word sentiment, you will perceive that there is a propriety in making this distinction between this word and *opinion*, which is derived from a Latin verb signifying to believe. To those of you whom reading and observation have not furnished with a stock of ideas for composition, translation may be recommended as a substitute, until you shall have acquired the confidence and ability successfully to attempt to compose.

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* The celebrated author of "Stories illustrating Political Economy," (Miss Martineau,) who is now on a visit to this country, remarked to another lady, "I consider it a proof of greater and more varied talents *to bring up a family well*, than to write a good book." Whatever may be thought of the proper application of the word *talents* in this case, I presume there are few ladies who would not consider it, *a bad eminence*, to be distinguished as a *good author*, but a *poor housekeeper, an inattentive wife, and a negligent mother.*

I am aware that, of all your exercises, many of you find original composition the most difficult; indeed, it is not strange you do so; when you write, you can only express by written characters the thoughts which you have gained by reflection and observation. If you have reflected or observed but little, your stock of intellectual wealth must be small; and who can impart to others that which they do not possess? It may be said, then, why should we be required to write compositions before we are capable of writing well? I answer, that if you have but a small capital to begin with, your stores will increase by use; but I would here caution you as to a choice of subjects; for beginners in composition, often select such as would require a philosopher to investigate.

For example, let us suppose a young Miss, unaccustomed to confine her thoughts for any length of time, to any given subject, writing a composition on *Gratitude*. She has a vague idea that *gratitude* is something praiseworthy, and begins by saying, " it is a virtue that all should possess." When she has proceeded so far, she does not well know what more to add; but the composition must be written; and so she proceeds to say that " every one ught to be grateful, and when they see people in distress, hey ought to relieve their wants:—thus she goes from ratitude to *benevolence*, and confounding the two virtues, estroys all distinctions of terms and ideas.

It is very important that in your attempts at writing, ou confine yourselves to subjects with which you are in ome degree familiar. No matter how common, or trivial nay be the theme; the object is to acquire a habit of exressing your ideas in writing, with clearness and simpliity. For example, give a description of your own dwellng-house, state its length, width, and mode of construcion, the materials of which it is composed; and a little eflection, with some previous learning, would suggest to ou the improvements which have been made in the buildng of houses and other kinds of architecture. You might escribe your own room, with its furniture, &c.; or, oking out upon the prospect before you, delineate, in ords, the various objects presented. Any production of ature or art, might furnish you with ideas. For instance, uppose you should write about an apple—you may think is a very insignificant subject—but nothing that God has ade is insignificant; nor is the power of describing the ost common object to be despised. Well, now begin to ink what you could find to say about an apple: you all now to which of the kingdoms of nature it belongs; you now that it is a fruit, originating from a flower of a cerin kind—the kind of flower might be described, the sual height of the tree on which it grows, the climate ost favorable to the growth of this tree, the various culiary uses of the apple, the evil purposes to which the inenuity of man has perverted it, &c. I have yet touched pon few of the subjects which your theme might suggest, and yet much might be said upon each one of the above-mentioned heads. A fly, a bee, or a butterfly, might afford subjects for your pen. I do not mean that you are, in your descriptions of an apple or an insect, to write as a botanist or geologist would do, but that you express in simple language your own observations upon them. I have said your own *observations;* you will please to notice this, for without observation you cannot write on any subject, except it be merely to repeat like the parrot, what you hear from others. But by attempting to describe common objects, you will see the need of observation and attention with respect to common things, and that learning is not confined to the knowledge which may be obtained from books.

By using your knowledge, however small the stock at first may be, you will continue to add to your intellectual stores; the idea of wanting to know something that you may communicate, in your composition, will induce you to pay attention to objects around you, to hear the remarks of wiser people, and to recollect what you read in books. But do not allow yourselves to borrow from others. On reading a very spirited or profound composition from a young lady of limited talents and opportunities, a teacher immediately believes that it is borrowed. Such a practice is not only stealing, but defrauding yourselves. If you begin with compositions, above your own capacities, you must continue them, or the deception will at once appear to your companions, as well as teachers. But I should very unwillingly believe that any pupil can be so lost to honorable sentiments as to wish to gain reputation for talents she does not possess, or so unjust to herself as to prevent her own improvement in the attempt to seem to be what she is not.

You have heard some things that may be said upon an apple. Look around you, and you see innumerable objects in the productions of nature and art; all of these have peculiarities of their own, which may be described even with no other knowledge of them, than you may gain by your sight, hearing, taste, touch, and smell,—innumerable comparisons between these objects will also naturally suggest themselves to your minds; as you acquire more knowledge, you will think of many relations existing between them which you now do not observe. The subject of geology will serve to lead you to reflect on the many things which may be said even of stones. You have, perhaps, thought that all were alike, but you now find that there is a diversity of character among rocks, as well as people. The rocks are not morally or intellectually different from each other, since they are destitute of intelligence, and even of life, which plants possess—but rocks and stones are physically different, that is, their external appearance is various, and their chemical composition different.

When you walk or ride out, you can always meet with something, animate or inanimate, that may serve for the subject of a composition. When you see a person in affliction, or behold some one debased by intoxication, or taking the name of God in vain, emotions of various kinds will be awakened, and these will suggest matter for composition. When you see a person relieving distress, you will sympathize with the feelings of those who receive the kindness, and thus from your own observation and reflection you may comprehend the nature and obligations of gratitude. Yet still you may not be able to investigate this emotion with the precision and accuracy of a philosopher; for, in order to do this, you would need to be acquainted with the operations of the mind, and the relations of cause and effect.

Although, in some of the foregoing remarks, I have more particularly addressed myself to the younger pupils, and those to whom the exercise of writing composition is new, I would say to all, be careful of going out of your own depth; study to understand the nature of your own minds, and occupy yourselves with subjects which you most readily and fully comprehend—write as if you had something to say, not as if you attempted to say something because you must write. If your minds are properly disciplined to habits of reflection, you must, with all that you are now studying, hearing, and seeing, have something to say respecting your own observations, reflections, sentiments, and opinions. It is well for advanced pupils, to write frequently on the subjects which they are engaged in studying.

A pupil in astronomy, having beheld the heavens, traced the path of the constellations, contemplated the planets and the fixed stars, as they are arranged in their beautiful order, may surely find enough to say of such observations—she might, as genius or inclination prompted, state in precise and scientific language the various celestial phenomena, or with a glowing imagination warmed, rise to a style of sublimity. Or if a Christian, and impressed with the thoughts of the Divine Power which created and upholds this wonderful universe, she would naturally be led to pour forth the devout expressions of a pious heart. Mechanical philosophy, optics, botany, chemistry, and all physical subjects, should lead the mind of the student to the observation of nature, and such observations will furnish abundant and interesting matter for composition.

History and geography are fruitful in subjects for the exercise of the pen.. Rhetoric and criticism are intended chiefly to teach you to arrange your thoughts with clearness and elegance, and to avoid errors which might offend the ear of taste, and rules of composition. Moral philosophy, leading the mind to reflect upon the reciprocal duties of mankind, and their common obligations to their Maker, cannot fail to suggest new trains of thought.

And when the empire of the human mind is first unfolded, as it were, upon a map before you, and the devious windings of thought traced to their mysterious sources; when you are first led to perceive that the mind possesses the power of looking inwardly upon its own operations, how many new and interesting ideas spring into existence! Copy these in their own native freshness and vividness of coloring, and the transcript cannot fail of being delightful to others.

The first impressions which the various branches of literature and science make upon the mind, have a character of originality and enthusiasm, which cannot afterwards be caught—these evanescent emotions should then be secured by copies made when they are fresh and new.

I have not recommended to the pupil, the attempt to write stories from the imagination; this may be well occasionally; but it has the bad effect of bringing the mind too much under the dominion of fancy. It is better for young ladies to occupy themselves with realities, than to stray too much into the dangerous regions of imagination. Besides, the practice of writing tales has a tendency to form a tinselled kind of style, not to be compared, in dignity or propriety, with a simple and plain manner of telling truth. As the various departments of human knowledge become more enriched with facts, and these facts are arranged according to the rules of science, ample scope will be found for the exercise of the human faculties;—and although we desire not to see the province of fiction deserted, yet we would see a higher rank awarded to those who search for and discover truth, who assist and perfect nature, than to the fabricators of those gossamer tales which receive all their coloring from the varying and illusive hues of fancy, and which have no higher aim than the amusement of hours already too short and too few for the great objects of human existence.

Poetry is a species of composition which none should attempt except those who are strongly prompted by genius. True poetical talent is rare, and can never be forced into existence: when it is possessed, it should be regarded as a precious gift from the Creator of mind, and enlisted in the service of virtue and piety.

LECTURE XXIII.

Logic.—Moral Philosophy.—Intellectual Philosophy.

The study of Logic should precede that of Intellectual Philosophy. As it is now taught, this science differs much from the logic of Aristotle and the ancient schools; with them it was a tissue of subtleties and absurdities; it taught to support both truth and error, furnishing arms alike to both. Amid the multiplicity of rules for the guidance of reason, reason herself seemed wholly lost sight of. It was like loading a warrior with armor, until crushed and buried beneath its weight. The ancient prejudices with respect to modes of reasoning, for a long time kept every science in a state of obscurity; for on the free exercise of the reasoning power in man, depends every degree of improvement in scientific research; indeed, there can be no research when reason is fettered. Thus, in attempting to foster and improve reason, she became bewildered and exhausted. As an illustration of the absurdities of the mode of reasoning encouraged by the logic of the schools, the following story has been related:—"The son of an unlettered farmer, who had been sent to college for his education, returned to his father's house, puffed up with pride, and expecting to astonish every one with the wonderful extent of his knowledge, and the sophistry which he had learned. Sitting one day at the breakfast table with his honest parents, the young pedant observing that there were but two eggs, 'I can prove to you,' says he, 'that here are three eggs;—here is *one*, and here are *two;* now, father, will you not allow that *one* and *two* make *three?*' The father could not refute the argument, although it contradicted the evidence of his senses; but, taking one of the eggs himself, and giving the other to his wife, said, 'As for you, my son, you may take the third, as a reward for your learning.'"

The proper object of logic is to teach the operations of the human mind, the method of reasoning and arrangement which is conformable to those laws, and to distinguish truth from error. So far, then, from being an artificial science, logic ought to be a deduction from observations made upon the nature and operations of the mind. It has been remarked, that God did not make man, and leave Aristotle to complete this work, by giving him, as the ancients seemed to believe, the power of reasoning. So blindly was the system of Aristotle followed, that, during the dark ages, in some parts of Europe, it was made a crime punishable with death, for a person to advance any opinion contrary to the doctrines of that philosopher. The art of reasoning, or the true logic, must have been coeval with the dawning of the human understanding. When Adam gave names to the beasts of the field, the fowls of the air, and the fish of the sea, he exercised the power of reasoning with as much propriety as any follower of Aristotle could have done, and probably with far less embarrassment. The latter would, in the first place, have needed to establish, syllogistically, the fact, that a beast was not a fowl, and that a fowl was not a fish. He would have thought it necessary to decide whether there was, in reality, any such thing as *classes* of beings, such as we now call dogs, cats, horses, &c.; or whether putting certain beings in a class together, and giving them one common name, such as dog, &c. does not give them that relation to each other, which the mind considers as belonging to individuals of the same class.

The ancient *Realist* would have gravely decided that we must look into our minds for *an image* which should be the representative of any one genus, and must compare the real animal with the idea; thus the idea or mage of a dog in our minds should be the standard to which all real animals which were to be included under he genus dog, must be found conformable. Plato and Aristotle were Realists. The *Nominalist* would have said, hat it was of no consequence what animals were called dogs, what were called cats, &c.; for, by giving to any particular number of animals the same general name, we hould learn to associate them in our own minds; thus, when the word *dog* was called, we should think of other beings of the same name, although this resemblance in name was, in fact, the only relationship which the mind cknowledged between them.

It does not appear that Adam was troubled with any of these logical subtleties, in naming the animals. Enowed by his Creator with the power of perceiving resemblances, and, probably, having received also a knowledge f language, he had only to examine the different created beings, in order to perceive at once certain distinctive haracters between the different families, and to give a general name to each family or genus. Whether the names which he gave were entirely arbitrary, or founded on some peculiarity of the animal, we do not know, hough the latter appears a probable supposition. For, notwithstanding the many transformations which language has undergone, we still perceive, in many cases, a resemblance in the sound of a word, and the animal which it denotes;—thus, *snake*, with the hissing sound of its consonants, and its drawling termination, seems, in some degree, to suggest the being to which it is applied; the name, *bird*, seems indicative of a quick, rushing motion; *tiger* seems to speak of ferocity, and *lion* of courage. How far our associated ideas may influence us to imagine these resemblances, we cannot well say; though this circumstance should be taken into consideration. You may be ready to ask, of what use can it be to study logic, if it serve only to perplex and cloud the mind? We have already informed you that the true purpose of logic is to assist in the development of the reasoning powers, by rules drawn from observation of the nature and operations of those powers. Logic is not to teach you to reason, for nature does this; but it may assist you, by pointing out those methods of study and investigation which people of reflection and observation have found to be most useful to themselves and others. Those who have studied any of the branches of natural science, particularly botany, have already been initiated into the principles of logical division and method. Mathematical demonstration is but the constant practice of true logic; and the latter science will be to those of you who are familiar with such demonstrations, but a review of familiar principles and facts.

Hedge's Logic has been selected as our text-book in this study; it contains the most useful principles of the science, and is little encumbered with the useless rubbish of the ancient schools. In recitations in this study, it is very difficult to change the language of your author in any great degree; the precise word used in definitions is here, generally, the very one which is needed, and the ide might be changed, or obscured, by attempting to alter the mode of expression. While it shows a dull and mechanical mind for a pupil to be always confined to the mere words of a text-book, it is, on the other hand, a foolish affectation and pedantry to avoid with scrupulous care using any of an author's expressions, however fine or forcible they may be. You never need fear being suspected of learning by rote, when this is not the case. There is as much difference in the manner of recitation between one who understands what she says, and one who repeats words from memory merely, as between the chattering of a parrot and the conversation of an intelligent person. The kindling of mind, the beaming forth of intellect, is never to be confounded with mechanical effort. Before closing my observations upon the study of logic, I will give ou a translation of some remarks from a French work, ntitled, "*Conseils d'un Père sur l'Education des Filles.*"* "Teach your daughters to search for principles founded in truth and wisdom;—teach them to conract the habit of ascertaining as far as possible, whether what they wish to do is conformable to both these;—teach hem to doubt upon all subjects that are not evident, but hat when they have well examined the foundation, and are certain of the correctness of the reasoning founded upon a sure basis, they should then know how to stop. Teach them not to wander from this focus of light, but, keeping their eye fixed upon this point, render it a means of discovering any fluctuation in their future opinions or conduct. Correct principles are a port in the tempest; they are an asylum against the attacks of error; an inexhaustible fountain from whence the streams which flow are always pure; an unerring compass to whose guidance we can yield ourselves without fear. We are strong when our conduct has been regulated by the rules of truth and honesty. You are not called upon to prepare yourselves for the pulpit or the bar, though it is well for you to be capable of judging of the merits of those who do appear there; and although you may not be called to proclaim your own opinions, you may have the satisfaction of enjoying in secret, the pleasure of being able to judge and to appreciate the efforts of great minds. The logic which we wish you to possess, is not that which leads to argument, but to the regulation of thought; that which shall enable you to establish rules for your own conduct. We would wish rather to perfect you in the art of thinking and judging, than in that of speaking; or, in other words, we would have your knowledge made subservient to useful purposes, not to vanity or pedantry."

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* Counsels of a Father upon the Education of Daughters.

The same writer, remarking on the necessity of order in the train of thought, says, "I had scribbled long, before I knew how to write: I had a tumultuous abundance of ideas; they flowed from my pen with great facility: letters cost me no effort; but when I came to treat upon serious and complicated subjects, I was confused, I felt that my reasoning had not that *tout ensemble*, that connection which characterizes energy and clearness. My discourses were but a collection of incoherent observations, of isolated reflections, of which I could never endure the second reading. Ah, how many manuscripts have I not destroyed in impatience and discouragement! At length a ray of light dawned upon my mind—before beginning to develop a subject, I traced my plan; I did as the architect who determines the proportions of a building before laying a single stone, and from thence, all difficulties in composition disappeared !

"From this sincere acknowledgment," continues the same author, "you may form an idea of the importance of method in the art of reasoning. *Principles* are the *base* and the *fulcrum* of every work, *method* is the *lever*, and *analysis* the *proof*." Is not then a rational and just logic a treasure ? Is it not as valuable for woman as for man, since the government of her thoughts, and the regulation of her conduct are of equal importance ?

Moral Philosophy.

Moral Philosophy is addressed both to the heart and understanding. Its principles should be impressed upon the mind, in the earliest years of childhood, as soon as the little being destined to immortality is capable of entertaining ideas of right and wrong. There is a period preceding this, when the child is to be governed wholly by a feeling of instinctive obedience. It sees itself in the hands of its parents, knows that they have power over it, and learns to submit its will to theirs. But as soon as the child begins to exercise its reason, as soon as the moral feeling begins to unfold, (we are here assuming the existence of a principle which some moralists or rather *immoralists* deny,) then should its moral education commence. It should be taught that the parent does not exact obedience because he has power to do so, but because it is right, because the parent has experience, and knows what is best. If one child take from another its toys, because it has greater physical strength, it should be taught that *power* does not make *right;* and that it is wrong, in any case, to take what belongs to another without the owner's consent.

Thus should children, from the dawning of reason, be accustomed to reflect upon the moral relations of actions. The science of Moral Philosophy, as laid down in books, is but a collection of those rules and principles which are considered as the proper guides of moral conduct, and which in their simple forms should be thus taught to children. The work of Dr. Paley, although liable to some objections, yet retains its place in most public institutions. It possesses merits of a kind very important in a school book; the style is clear and simple, the method of arrangement calculated to aid the memory, and the reasoning is generally precise and logical. The chapter on the moral sense does not appear to me to state the subject fairly, or to give to the argument that bearing which religion, morality, and experience point out.

Consider man as destitute of an original, moral feeling, (the term *sense* is perhaps an objectionable one,) and how can he be considered an accountable being? Is it not this very feeling, implanted by God in the human heart, which renders man a moral agent? Is not this moral feeling the foundation of all our ideas of right and wrong? If right depended on custom, law, the will of a sovereign, or of a majority, where is our standard? Dr. Paley would say, the revealed will of God. But if we have no natural feeling of rectitude, why should we think it right to render obedience to our Creator? This question is thus answered by Paley: "We believe that God can reward or punish us, that he will do this in proportion to our obedience or disobedience, therefore we will comply with his will for the sake of the reward."

But how is it with the Creator himself? Are his acts good, because he is powerful? Or rather, is there not such a thing as a principle of goodness, of which God is the fountain, and which, when he created man in his own image, was imparted as the vital principle of the human soul? This soul, although corrupted by the fall, still retains a portion of its divine principle, which, even in the most debased condition of mortals, discovers itself by the remorse and shame which follow vice. With the exception of what I consider Dr. Paley's erroneous ideas respecting the want of an original, moral principle, and the necessary consequences from this which appear in his definition of "virtue, right and wrong," &c., I regard his Moral Philosophy as a work of great merit and utility. His views of the Sabbath are, however, far from being admitted by all Christians; most of whom believe that the Christian Sabbath is a continuation of, and a substitution for, the Jewish Sabbath, and that we are under the same obligation to regard the fourth commandment as the other nine. Dr. Paley considers it expedient and proper to observe the Sabbath by attending public worship on that day, and devoting as much time as possible to spiritual exercises; but he does not regard the hallowing of the Lord's day as enforced by a command.

Parkhurst's Moral Philosophy is designed to correct some of the supposed errors of Paley. This is a work of much merit, and may be read with advantage by pupils in this study. In our moral department we shall consider the importance of developing and fortifying the moral emotion, and also its connection with our duties towards our Maker.*

* Wayland's "Moral Philosophy" is highly commended by those

Intellectual Philosophy.

With some remarks on the Philosophy of Mind, I shall close my lectures on Intellectual Improvement. *This science, although education is based upon it, is very properly, as a department of study, the crowning of the whole superstructure. It commences with some knowledge of the operations of the mind, and is acquired in the first years of life. The child learns to know the opinions and emotions of those around him, by means of external signs; and he must have reasoned upon associated feelings before he can have known how to move compassion by his cries, or excite laughter by his playful gambols. Every year of life increases his knowledge of mind; he feels himself urged by motives, he perceives a controling power in himself, when he chooses to exert it, to stop the headlong current of the passions, or to direct them into new and better channels. All observations upon our own characters or those of others belong to mental philosophy; this is the most valuable, or the practical part.

When therefore you commence this study in books, you continually meet with your own familiar thoughts. You had often observed in yourself the power of recalling one thing by the help of others. For instance, when you had entered an apartment for the purpose of finding some article, you perhaps had forgotten what you went for; you were unable by any effort of memory to recall the lost idea, but by returning to the place from whence you set out, were reminded of it, by its connection with other objects.

who have examined it attentively. From the abilities of the author, his experience as a teacher, and his sound views of Christianity, we may expect much from this work.

You may not have formed any theory of the principle of association, and are therefore prepared to listen with attention to any explanation of phenomena which are a part of the history of your own thoughts.

Mankind, who are ever prone to excesses, have, from a period in which the study of the human mind was deemed above the comprehension of females, and unsuitable to their condition and character, gone to another extreme, in which the science of metaphysics is considered little more than a plaything for children ; and young misses, who have neither yet learned to think methodically or reason accurately, are heard to talk learnedly of the opinions of philosophers who have written upon mental phenomena.

Some of the elementary principles in the science of mind, as the distinct nature and different destinations of the soul and body, the superior importance of the spiritual part, and the child's obligations to improve his mental faculties, ought early to be pointed out. Such works as the Child's Book on the Soul,* which, in language adapted to the capacities of children, leads them to reflect on the nature and operations of the mind, cannot be too highly valued by parents and instructors. These truths form the foundation of all religions knowledge and belief; a belief in them is anterior even to the idea of a Creator. When the child, in answer to the question, " Who made you ?" replies, " God," he must comprehend the truth, that there is a being whom he calls *himself*, that this being is a something, unlike a stone or a plant, neither of which, he knows, could understand or answer a question.

Although some of the leading distinctions between matter and mind should be taught even to children, I cannot agree with those who recommend the *study of metaphysics* as a preliminary step in education, on the ground that pupils must be made to understand the nature of the *mind;* because that in education, this is both the instrument with which the operation is carried on, and the object which is operated upon. We might as well insist that a boy was not qualified to be put an apprentice to a carpenter, without a knowledge of the principles on which the lever and other mechanical powers operate ; in short, without understanding the theory of mechanics. If a child could not compare, reason, or remember, until he first understood the powers of his own mind, and the abstract nature of comparison, reasoning, &c., these operations could never be performed; for the very study of them requires their constant exercise, and an exercise rendered skillful by long practice. If works on mental philosophy are put into the hands of pupils whose minds are not ripe for such investigations, the truths and reasonings cannot be comprehended, and a rooted dislike will, probably, be acquired for the study. But if the mind have been previously prepared by suitable discipline, enriched by a knowledge of language, of history, and of natural science, so that illustrations drawn from these various sources, can be understood and enjoyed, then will the science of mind be drank in with a new and enthusiastic delight. Often have I,* with sympathizing enjoy-nent, watched the kindling glow lighting up the countenance of such a pupil, on hearing for the first time an explanation of some familiar operation of her own mind, or when tracing the map of the human intellect, she beheld the innumerable little rills which flow into the great ocean of thought, and traced them to their mysterious fountain. The sublime truths of the science, now enter the soul in all their freshness and beauty; and this era in the history of her own mind is ever remembered with deep and peculiar interest.

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* By Mr. Gallaudet. This little book ought to be found in all Sunday-school libraries.

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* The author, during the several years she had charge of the department of intellectual philosophy in the Troy Female Seminary, had the happiness of instructing many young ladies of distinguished talents and virtues, who now hold a high rank in society, and honorably sustain the various relations of life. Not a few are among that class, who are fulfilling one of the noblest and most important offices of life, that of teaching the young ; while others are exemplifying in the de-

I would not be understood as asserting that, in the study of mental philosophy, the way is invariably strewed with flowers; or that the pupil is always rewarded by the pleasure of eliciting truth. In no other science is there such a tendency in authors to wander into the mazy regions of hypothesis—fancying that a new ray of light has fallen upon their path, they often begin to see things in a different aspect from their predecessors; and although this new light may be but the coruscation of a brilliant fancy, the hues which it imparts are looked upon as so many revelations made by the torch of reason. Thus have metaphysicians been liable to be misled by false lights, ever since the days of Aristotle, who asserted that the mind resided in the brain, which was a dark cave filled with miniature images, called thoughts, that came forward for the inspection of consciousness, as they were called up by memory, and retreated as they were dismissed by abstraction.

mestic circle the beneficial influence of educated women upon human virtue and happiness. When these pages shall meet the affectionate glance of some of those whose memory is thus dearly cherished, the eye will glisten, and the cheek glow at the recollection of former school-day scenes, of companions once beloved, and, it may be, of her who watched over their intellectual progress, with maternal pride and anxiety.

Since the time of Locke, metaphysical writers, following his example, have made the *operations* of the mind, or its *faculties*, and not its *nature*, or *essence*, the object of their investigations. These operations are known to us but in two ways, *experience* and *observation;* every thing gained by these sources is an addition to the stock of human knowledge. The great point is to know how to seize upon facts, and embody them in a manner to be intelligible to ourselves and others. Facts, in order to be useful in science, must also be properly arranged; and the difficulty, with most minds, is the want of a suitable mode of arrangement.

Logic and criticism are instruments which teach the arts of thinking and of arranging thoughts: metaphysics is the science of principles: it instructs man in the nature and use of his faculties; it discovers to him his weakness, but at the same time shows him his strength; it acquaints him with the extent of his reasoning powers, and that although by these he may know many things, there is a barrier beyond which he cannot pass. In this science we learn to set bounds to the influence of human authority upon the mind, and that no truths, however strongly urged, should be received, but such as have a claim to our belief, founded upon reason. The reason of each individual, must be his own guide; and it therefore becomes a matter of great importance that reason shall, as far as possible, be divested of prejudice, and assisted with fixed and unerring principles.

In speaking of the influence of reason in matters of belief, I would here observe, that I do not mean to include the doctrines taught in the Holy Scriptures. With respect to Divine *revelation*, after we have, by weighing its evidences, become convinced that it is in fact what it professes to be, the word of God, that it is impossible to resist the united testimony of collateral history, prophecy, the evidence of a multitude of competent witnesses, and the evidence of effects now before our eyes, viz. thousands of worshiping assemblies calling on Jesus of Nazareth, and breaking bread in commemoration of his sufferings—after we have become convinced that any one of these evidences would be sufficient to establish their authenticity, and that this concurring testimony furnishes a mass of evidence which it is impossible for reason to resist or deny, we must then fully and unreservedly receive the Scriptures as the word of God. Are these writings sometimes mysterious and unintelligible to us? So is the moral government of God, so are the dispensations of his providence. Are the truths revealed of a nature which human reason cannot fathom? so are many of the facts in the natural world ;—but do we deny the influence of that vital principle which is the spring and source of organic life, because it is invisible to us? We see its effects, and therefore believe in the cause. Shall we deny the operation of the Holy Spirit upon the human heart, because "it is a still, small voice, and we cannot tell whence it cometh, or whither it goeth?" We see the wicked man turning from his evil ways; the proud becoming meek; the drunkard temperate; the churl liberal; he who once scoffed at religion sitting at Jesus's feet—and shall we deny that these effects are uncaused, because we cannot explain them by deductions from human reason? Let us exalt human reason to its proper rank—let us walk by its light when we have none clearer; but let us remember, too, that he who gave man reason, and who "seeth not as man seeth," is to be believed and obeyed without question as to the propriety or expediency of his commands.

In all matters of human knowledge and belief, reason must be our guide: when we find a subject to be beyond our capacity, we should cease to investigate. Plutarch observed, that as geographers, when they have laid down upon their map those countries which are known, place beyond these their *terra incognita*, or *unknown lands* and *seas*, so historians should use the same distinction with respect to the fabulous and uncertain ages of the world. Thus should we, in all our researches, endeavor to distinguish the boundary which divides the legitimate subjects of human inquiry, from what is beyond the knowledge of man.

No farther than *perception* will carry us, can we go in any human science; as discoveries are made, perception is aided and rendered more acute; thus the *telescope* has brought the planetary worlds nearer to us, and revealed new facts with respect to them, which are added to the science of astronomy;—the *microscope* has acquainted man with new wonders in the kingdoms of nature, showing him, where vision had not before discovered life, that millions of living things exist, which we inhale with the atmosphere, and drink in the purest water; that these animalculæ inhabit every leaf, fruit, and flower; and some late discoveries would almost prove, that our own material frame is but a mass of living atoms. Wherever *observations* can be made, is a field for human inquiry. But all questions are profitless, which relate to *infinitude*, as *infinite space* and *eternity;* to the *connection between matter and mind*, and to *their essence;* the *inhabitants of other worlds*, and every thing connected with a future state, except as revealed in the word of God. All subjects of this nature, should be considered by metaphysicians as "*unknown lands and unapproachable seas.*"

Mental philosophy would be of little use, had it not its practical applications. The members of this class profess to study the human mind; suppose, hereafter, any one of you in promiscuous society should unseasonably introduce your knowledge, talk fluently of the opinions of philosophers, or give the result of your own profound reflections, would this show that you practically understood the human mind, or, as it is more commonly expressed, *human nature?* It is to be presumed, you would all wish to please, when this can be done without any sacrifice of principle; that you would not willingly disgust others, or acquire the reputation of being pedantic. A knowledge of the operations of the mind, should lead you to consider what kind of manners will produce the effect you desire; it should teach you, that vanity, by leading to a foolish display of learning, would defeat its own end, so that instead of admiration, you would excite disgust. Perhaps this caution is unnecessary, as there are now so many educated females, that there is little temptation for any one to be vain of her learning; this effect which Hannah More anticipated, as the result of more enlarged systems of education, is now realized. A female possessing a cultivated mind, is no longer regarded as a prodigy, and we hear far less of *les bas bleus** than formerly. Slip-shod feet, dirty caps and gowns, have ceased to be regarded as the characteristics of a literary woman; and she is now allowed to dress herself neatly, after the fashion of the day, and to enjoy the social pleasures of life like others of her species. Indeed, so far is learning, at the present time, from being a reproach to a lady; so far from lowering her in the estimation of others, that when connected with good common sense and amiable manners, it adds greatly to her influence and respectability in society.

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* "Blue stockings;" an epithet formerly applied in ridicule to literary ladies.

But there is always a degree of delicacy expected from a lady in the use of her acquirements, which should not be lost sight of. The effect of these acquirements, as I have often remarked, should be exhibited in the general character and deportment, methodical arrangement of time, richness, ease, and variety of conversation, and, in short, the power of adapting one's self to the changing circumstances of life, and of fulfilling its many and varied duties. A practical knowledge of the human mind is peculiarly important to our sex; it is a knowledge which they have ever been quick to seize. The great volume of life, woman reads with facility;—mingling in society, she soon learns the art of pleasing, adapts herself to its prevailing taste and manners, or rather learns to lead its taste, and influence its manners. The French women have, at different times, exercised great power over the minds of kings and statesmen; they have often, though behind the scenes, been the real actors in the drama of life, while those who fancied themselves such, were in fact but automatons, moving in a prescribed circle, and accomplishing the designs of those who led them. But how, in many instances, was this influence acquired, and how was it exerted?—Who are among the celebrated women, from Aspasia of Athens, to Madam Pompadour of France, that have been distinguished for their power over the other sex? My young friends, they were those who sacrificed virtue and self respect; and who sought, in the triumphs which announced their own degradation, to stifle its remembrance.

But these wanderers from the path of true dignity and of virtue, had not the advantages of a consistent and moral education. Aspasia, it is true, lived in the age of Athenian glory, and was deeply imbued with Grecian learning, but she had not the pure light of the gospel; and the high rank which she held among the Greek philosophers, notwithstanding the licentiousness of her conduct, show us the actual value of heathen morality.

I remarked that women are quick to learn the operations of the human mind, by observations on society; but this does not preclude the utility of well-chosen books, and of systematic instruction; on the contrary, it renders them more important, by giving their knowledge and tact a right direction. Without such aids, females are too apt to exercise their ingenuity in petty attempts to extend their empire over others, from the mere influence of external charms or fascinating manners; with more elevated views, they learn to value only the influence which is gained by the charms of intellect and the dignity of virtue.

A just and practical knowledge of the human mind is highly important to woman in the several relations of life, domestic and social; more especially does the mother and instructer of youth, need to understand the avenues and secret windings of the human heart, to be able to read the thoughts, and to direct them into their proper channel. Mr. Stewart remarks: "The object of education should be, first, to cultivate the various faculties of our nature;

second, to watch over early impressions and associations, to secure the mind against the influence of error, and to lead its prepossessions on the side of truth." This science also may have a very important influence upon our own moral and mental improvement; or, according to Stewart, "every person on arriving to years of reflection, perceives in himself defects, owing to some mismanagement in education, and knowing the laws of his own mind, he feels the necessity of beginning a course for himself."

This self-education is, after all, the great business of life; it is in order to enable the young to discipline their own minds, to detect the errors in their own conduct, and the latent evils in their own hearts, that for so many years they are disciplined and taught by others. The sooner this lesson of self-education is learned, the sooner do the young assume the dignity of rational beings, and become fitted to be their own guardians. .In reading the biography of eminent persons, we find that they were always strict in their self-requisitions and self-government. They observed themselves closely, and when they found a bias towards any particular fault or weakness, they directed their efforts towards correcting the one, and strengthening the other.

I would again urge the importance of keeping a diary, in which the moral tenor of your actions and the bent of your minds should be scrupulously noted. This journal should be for your own inspection only; for such is the deceitfulness of the human heart, that it is very apt to suggest a too flattering picture of itself, where it is made with the design of being seen by any but the original.

"Man, know thyself," is a precept as important as it is difficult in practice. To assist us in this duty, no science is more highly beneficial than that which has the human mind for its object, and yet, unless we add to our philosophy the wisdom of true piety, we shall never fully comprehend the extent of human depravity, the true mode of purifying the heart, and rendering it meet for an offering to its Creator.

PART IV.

ACCOMPLISHMENTS.

LECTURE XXIV.

Music——Dancing——Drawing.

Female accomplishments.

We have now completed our view of the various branches of literary and scientific education, which constitute a course of instruction in the institution of which you are members. We have considered them all under the general head of *Intellectual Improvement.*

It has been my wish to give sketches of these subjects, which, though neither perfect in outline, nor minute in particulars, might, as graphic delineations, serve to fix their leading features upon the tablets of the mind.

The chief object in the attainment of what are called *accomplishments,* ought to be to soften and refine the manners, and add to the innocent and elegant enjoyments of human life.

In music and drawing, the physical, intellectual powers, and the emotions are all exercised. Dancing is to be considered chiefly in reference to its effects on the motions and carriage of the body, although as a pleasant and exhilarating exercise, it may be made conducive to the promotion of cheerfulness and good humor.

Female manners cannot be taught with didactic precision, under any given number of rules. There is a certain nameless grace in fine manners, which it is impossible to describe, and which cannot be traced to any one source. They are the result of education, intercourse with refined society, and that general benevolence which wishes to please, not from the impulse of vanity, but because it finds its own happiness in making that of others. The manners acquired at boarding-schools are often, and not without reason, made the subject of severe remark. One writer says: " Boarding-schools give us artificial creatures, made up of artificial looks and smiles; their airs, gestures, and articulation are all a compound of affectation. Such schools give *forwardness* to fruits, but deprive them of their natural healthiness and flavor, and the *fine ladies* they send into the world feel themselves ridiculously exalted above all sensible conversation, or all attempts to be useful."

Although the author just quoted appears to have indulged in too indiscriminate a condemnation of all boarding-schools, we cannot but admit that he has drawn a correct likeness of many of the *finished* young ladies of the present day. To a sensible and elevated mind, nothing can appear more ridiculous and contemptible than the airs which are sometimes assumed by young ladies on leaving school, and making their *entrée* into the world of fashion. The cause of this exhibition of folly and affectation may often be traced to early associations, acquired under the paternal roof, and confirmed by a defective mode of education.

The influence of maternal character is strikingly manifested in the associations of the child. A young girl who observes that show and fashion are the chief concern of her mother's life, very naturally acquires the habit of regarding these things as of the highest importance. She learns, that to play and sing well, to possess a fashionable air and manner, are to be her passports into the world of fashion, which she believes is the true paradise of life. Her young bosom heaves with tumultuous agitation at the thought of that period when she shall be *brought out*, or *become a young lady*, be entitled to coquette, to prattle nonsense, and play off the airs which she has learned to consider the test of an *elite* of fashion;—with such prepossessions she is sent abroad to a boarding-school, and with the avowed object, on the part of the parents, that she may become *finished*, or may, in a degree, perfect herself, in certain elegant accomplishments. The inquiry on the part of such parents with respect to the character of a school, is not, what course of mental discipline is there pursued; what is the tone of moral instruction, or the standard of intellectual attainments; but what attention is paid to accomplishments, and what are the advantages for learning music, dancing, &c.

What must be expected from the daughters of such parents, after the completion of an education in a school conformable to their own false ideas of merits? If young ladies enter life fitted only for its gay scenes, what is to be their future destiny, even in this world? So far are festive scenes from making up the whole of life, that even in the most prosperous condition of human existence, there is more of sorrow than joy, more of mourning than mirth. It has been observed by the good Hannah More, that "from the course pursued by many with respect to the education of their daughters, one might, reasoning *a priori*, be led to infer that the life of women consisted of one universal holiday, and that the only contest was, who should be best enabled to excel in the sports and games that were to be celebrated in it." Now it is this very idea of the great importance of accomplishments, which causes so much vanity and affectation among females. Did they, for instance, regard music merely as an agreeable and refined amusement, which would enable them to add something to the enjoyments of their friends, as well as afford pleasure to themselves, we should not see so much parade and fluttering when a young lady is requested to sing or play in company. The idea that her performance is a matter of great moment, the expectation of the admiration she shall receive, or the fear of mortification, all serve to render her manner constrained and unnatural; add to this, a habit of affectation already acquired, and we have the picture of many a young lady exhibiting herself at the harp or piano, to the pain and mortification of all sensible and truly elevated people.

Let music and other elegant accomplishments take their proper rank ; they are pleasant, as interludes in the great drama of life's duties. If an actor in an inferior part should fancy himself the hero, and snuff the candles, or perform any other trifling service, as though it were an affair of the first importance, the beholders would consider it ludicrous; so to a reflecting mind appears the manner of those who seem to think the singing of a song, or playing a piece of music, an occasion of the deepest interest. A long prelude of hesitation, apologies and denials, must prepare the minds of the company for the great event; and in many cases the result of this preparation is the interruption of all sensible conversation for a very indifferent or affected performance.

A young lady's appearance in conversation, is far more important, as developing her intellectual attainments, than any musical performance can be, and yet few would refuse to enter into conversation, through consternation at the idea that they might not be admired if they did speak. We do not expect the dumb to speak, neither can a lady, ignorant of music, perform for the gratification of her friends; but one who possesses this accomplishment, should no more refuse to exercise it at proper times, than she should refuse to converse. The great point is to have proper ideas of the real importance of actions and things, that we may not attach undue importance to trifles. If a young lady who is known to have some skill in music, after modestly stating her own deficiencies, performs but indifferently, she has at least shown an amiable, obliging disposition in complying with the wishes of others, and in many cases such instances have made lasting impressions favorable to the character of a person. If another young lady shows herself off with an air of vanity and self-satisfaction, however fine or scientific her performance, she has left no pleasant remembrances of herself in the minds of the beholders. And really, of what use are the greatest acquirements in music, as respects the great business of life, or as the foundation of a character? The stage probably affords finer specimens of musical talent than any private circles, and yet how wretched and depraved have been some of the most distinguished of its votaries! at the best, how low is their station in society, and how little do they contribute to the real well-being of mankind!

A French lady of distinguished talents, elegant manners, and the instructer of queens and princesses,* in remarking upon female character, and the influence of mothers upon the associated feelings and the principles of their daughters, says: "Honored be the mother, who, in bringing up her daughter, is not actuated by the sole desire of rendering her *fascinating;* who secures to her a durable good in the cultivation of her judgment, and in the enlightening of her mind; who accustoms her to prefer duty to pleasure, knowledge to amusement; who teaches her to be learned without pedantry, and graceful without affectation. Then will this daughter be wise without vanity, happy without witnesses, and contented without admirers."

As an elegant accomplishment, and a resource against adversity, music may well be considered a desirable branch of education, when circumstances permit its attainment. This science may also be cultivated without any detriment to mental improvement, since, during the time devoted to it, the mind is agreeably relaxed, and the physical powers are called into action. One or two hours each day, devoted to practice on any instrument of music, besides the usual time spent in receiving lessons, will, if faithfully improved, soon produce a manifest improvement; if this course is pursued with persevering industry, for some length of time, a young lady may perform upon the piano or harp with skill and execution.

But I cannot avoid considering that parent or instructer as deeply guilty, who urges a child to spend the greater part of a day in thrumming upon an instrument, leaving the mind to grow rank with the weeds which will spring p where the intellectual powers are not cultivated, and uffering an immortal being to grow up to maturity withut that mental and moral culture, which are so important oth for this world and for eternity. What can we think f that father, who compelled a daughter for several years o practice twelve hours a day upon the piano, and occaionally stood over her with a whip, to urge her efforts? The young lady, indeed, became a great proficient in muic; she appeared with eclat at public places, and was the even days wonder of the fashionable world. But she ailed to make that splendid connection in life for which t was supposed the father designed her; for, though lattered and caressed by many, it did not appear that any entleman of fortune thought that the highest perfection n music, was sufficient in a wife to atone for the want of nore common though more necessary qualifications.*

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* Madame Campan.

You will not understand me as depreciating music, or ncouraging its neglect. Those who possess a native talent or this delightful art, and whose circumstances render its ultivation proper, should, as I before remarked, improve he opportunity of acquiring it. When commenced, muic should be assiduously pursued; it requires much atience and practice, to become even a tolerable profiient. A pupil should not only endeavor to acquire skill nd taste in execution, but to understand the science, and o comprehend the principles on which it is founded. It s important that those who are to learn music should comnence the study while young; at this time the fingers are liant, and can easily accommodate themselves to exerises which are found very difficult by older persons. At a period, too, when the faculties of the understanding are but partially developed, there is not that necessity for the full appropriation of time in study, which is afterwards required in the pursuit of the different branches of education.

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* The case here mentioned is one of real life, and which occurred n our own country.

Madame Campan well remarks, that "the many hours which a young girl devotes to the instrument would be much regretted, if they did not procure her a genuine talent for life. We hear it often remarked, that a young person, as soon as she is married, shuts her piano, which becomes merely a useless piece of furniture: this is true, when it recalls only the melancholy recollection of a culture without fruit. If by means of repeated lessons, chidings and tears, she is able to play some sonatas which have never contributed to her pleasure, nor that of others, is it not very natural that she should free herself from this restraint, as soon as she can follow her own inclination?" But if a lady can read music, and has entered with any degree of enthusiasm into the delights which it affords, she will never be likely wholly to abandon an exercise in which all the emotions find an answering expression.

In joy and sorrow, hope and despondency, the swelling heart may find vent in sprightly or melancholy strains of music. I recollect an elderly and very amiable foreigner, whose *cara sposa* was not of the sweetest temper imaginable, who always resorted to the piano, after a storm of female vengeance had burst upon his head. This instrument seemed as a faithful friend, which gave out no other tones but such as were respondent to his own feelings. And since females, though sometimes the aggressors, are often the aggrieved party in domestic discords, music might be improved by them to a similar purpose. Indeed, music if cultivated and practised by a married lady with the view to her amusement and improvement, must have a tendency, not only to console her in trouble, but to soften and elevate the tone of her mind, and to smooth the asperities of her own temper.

Vocal music is far from being the artificial thing which some amateurs of the present day would make it. The birds have no Italian masters, and yet even the trills of the most scientific performers are far inferior to some of theirs. It has been proposed to introduce vocal music into common schools, as one of the ordinary exercises. A gentleman who has traveled much in Europe,* states that in Germany and Switzerland, music both in theory and practice is regularly taught as an important branch in the national system of education. He says that a distinguished professor of the island of Sicily, on hearing of the unhappy influence of study upon the health of our literary men, asked, " What are the amusements of your literary men?" When answered *None*, the Professor said, " No wonder they are sick, and die of study,"—observing that he spent a stated portion of the day in recreations, of which instrumental and vocal music were an essential part, and that he thought he could not live without the relief which they gave his mind.

While speaking on the subject of vocal music, I cannot but deprecate the improper character of most of the popular songs of the day. Young ladies are often heard to express in singing, sentiments that they would blush to utter in conversation; or, if there is nothing absolutely wrong in the thought, the words set to fashionable music are usually without sentiment or moral. The beautiful and chaste songs of Mrs. Hemans are a noble exception; every thing that comes from her pen is pure, and bears the image and superscription of an elevated and chastened mind. The plaintive and thrilling air of her "Bring Flowers," the spirit stirring "Pilgrim Fathers," and the wail of the "Captive Knight," are only equalled by some of the noble efforts of Heber.

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* Rev. W. C. Woodbridge.

Has America no Hemans, who will awaken a sleeping lyre in behalf of her young sisters, to give them songs which, instead of soiling the purity of their yet unpolluted hearts, may enlist their associations and affections in the cause of virtue? Have we no Heber, whose lips, touched with hallowed fire, may warble forth strains which shall waft the spirit above the mist and darkness of earth-born passions, and teach it to soar in the regions of a pure love and holy devotion? Alas! *fashion's seal* must first be set upon the noblest and purest efforts of human genius, before it can gain access to the temples where *she* is worshiped;—and we are led to wonder that she has even deigned to accept offerings as pure and holy as those which have emanated from the spirits of Mrs. Hemans and Bishop Heber.

To her whose heart beats high with the hope of admiration in the circles of fashion, and who has no object beyond that of receiving this admiration; to the gay and thoughtless girl who counts each day a weariness till she shall be released from intellectual labor, from regularity in duty and in conduct; who feels that she is about to realize, in coming scenes of amusement, those visions of earthly bliss which had been impressed upon her almost infant mind,—to such an one it would be useless to say, "let not fashion, let not the popular taste seduce you from the straight and narrow path of female delicacy and propriety." Alas! such warnings are vain, such admonitions are powerless, where the heart's affections are already, in imagination, poured out at the shrine of fashion, that destroyer of woman's purity, and simplicity of taste and character.

But, suffer me to hope, that few of you will thus leave these retreats, where female virtues have been assiduously cultivated, where female influence has been so often explained, where female duties have been enforced, and the female mind has risen to new light and life!—Suffer me to hope, that not one of you, after all this, will leave this sanctuary to go forth into the world, thoughtless as the giddy insect, which rushes into the consuming flame. It is your duty, and your right, to take upon the stage of life a standing, dignified as your rank, fortune, talents, and accomplishments entitle you to, but forbear to lend your countenance to folly or vice, however elegant or fascinating they may appear.

My remarks on the study of music have been somewhat desultory; and suggestions connected with the subject have drawn me aside from some remarks which I would make before leaving this topic.

Before commencing this branch of education, reflect whether you have a natural taste for it, and whether this accomplishment is correspondent to your means and condition. If in your own judgment and that of your friends all these things are considered favorable, commence music with the resolution of becoming a proficient in it. Consider it as a means of improving your taste, and giving refinement and delicacy to your emotions. As a science it has its intellectual department; it assists also in the perfection of the physical organs, particularly in educating the ear to a nice discrimination of sounds, and may do much towards forming a correct habit of reading.

It will be a resource in adversity, will enable you to enliven domestic scenes; and should you be mothers, it will render you capable of instructing your children, or at least of knowing when they are well instructed. The highest and noblest object of music is to employ it in the service of our Maker. The blessed in heaven are represented as singing to golden harps the glories of redeeming love. It is melancholy to behold a person highly gifted with musical talents, who has never learned to employ them in praise to Him from whom man receives all his faculties.

I am sensible that as yet I have scarcely touched upon the main spring, which, among many, causes a devoted attention to music; I allude to the anticipated power of dazzling by the display of an elegant accomplishment, the hope of being the centre of a fashionable circle;—but on this point I shall not now dwell. It is too painful to anticipate the evils which result from these hopes and expectations, so often the ruin of females, or of all that is truly estimable in the female character.

Permit me to hope that those of you whose intellectual powers are strengthened by discipline, whose minds are stored with a rich variety of knowledge, and whose morals are elevated by reflection and study, and especially those who are influenced by religious consideration, may be able to repress an inordinate love of admiration, and to enjoy the possession of elegant accomplishments, unaccompanied by that restless vanity which finds happiness only in display.

Dancing.

Madame Campan, whose judicious opinions I have pleasure in repeating, observes: "Accomplishments should not form the basis of the education of girls, but he first lessons in dancing and the piano should be given at about the age of seven years. Youthful limbs can place hemselves more easily according to rules, which add to he graceful embellishments, and render them so natural hat the fruit of lessons can be no longer distinguished; it s also very certain that the physical development and health of children gain much, where they contract in good ime the habit of holding themselves up, and walking gracefully." I am aware that dancing in many cases receives too great a share of attention; and what is still worse, that it sometimes creates and fosters vanity and a ove of admiration in the youthful heart; but this is not he only thing innocent in itself, which may be abused and perverted. Language is often made an instrument of evil; religion itself may be used as a cloak for hypocrisy, but we would not that either language or religion should be condemned because they may be thus perverted.

As a healthful exercise, dancing is recommended by most physicians. Dr. Warren, in his lecture delivered at Boston, in 1830, before the American Institute of Instruction, remarks, that "next to walking in the open air, the best exercise for a young female is dancing. This brings nto action a large part of the muscles of the body and ower limbs, and gives them grace and power." To those who are engaged in study during a large part of the day, some exercise of this nature seems absolutely necessary, especially in winter, when the weather confines females within doors.

It is for this reason, as well as for the sake of improving the external deportment and carriage of our pupils, that dancing is here taught and practised. But you are well aware that there is a great difference between young ladies receiving lessons in a school, and practising wholly by themselves, and going to a public hall where young persons of both sexes mingle promiscuously, and attending at *publics*, or quarterly exhibitions. There are certainly evils attendant on such a course, which more than counterbalance all the advantages to be derived from learning to dance—girls and boys associating before they consider themselves as ladies and gentlemen, either acquire a familiarity of address which in after life will be improper and disgusting, or begin to practise the arts of coquetry, which, ridiculous as they are at any period, appear still more so where we look for the honest simplicity of childhood.

It is this improper manner of practising dancing, and the subsequent dissipation of after years which has prejudiced so many good people against an exercise which nature prompts, and which the Author of nature has never prohibited. Even the battle-horse is moved by the sound of martial music, and treads proudly to its measures. And who that sees a child, or a young female moving in harmony with sprightly music, can look moodily upon the sight, as though it were a sin against Him who adapts the ear to the nice perception of sound, makes the heart to answer in correspondent emotions, and gives to the muscular frame the power to express, by motion, the character of these sounds? That, in itself, dancing is not offensive in the sight of Heaven, we may gather from the tenor of the

Scriptures. Among the pious of old we read of dancing s an expression of cheerfulness. David, in the overflowng joy of his heart, danced before the ark of God. Jepha's daughter, a maiden of purity and innocence, went ut with music and dancing to meet her father returning rom battle. Our Saviour himself, in the parable of the rodigal son, in which the father is considered an allegorial representative of Him to whom we have every day eed to say, "Father I have sinned against thee"—our aviour represents this father, as having in his house music nd dancing on the occasion of the penitent's return.

While I would rescue this exercise from the reproach hich I think has been improperly attached to it, I would ondemn in the most decided manner those evils which ave been suffered to connect themselves with it. Some f them I have already mentioned in remarking upon promiscuous dancing-schools and public balls. I would oberve that another evil connected with these, is the fondess for dress and display which they usually produce. Mothers, when their little darlings are old enough to go to dancing school, are too apt to think they must appear ery *fine*; their own boxes of jewelry are searched for oraments, their watches divested of chains for the pretty ecks of these miniature belles; or, if circumstances permit, new ornaments are purchased; dresses are made, hich vie with the gossamer in lightness of texture, and his mimic representation of French dolls are sent forth hus bedizened to attract the envy of their companions, nd to imbibe the moral poison which will hereafter apear in their devotion to dress and their thirst for admiraion. I could point out instances of females, whom naure has highly favored with beauty of person, talents, and most amiable dispositions; but yet the whole beautiful fabric is deformed by this one taint, which, taking deep hold in childhood, no after exertions could remove;—like the blood of the murdered, which superstition believes leaves an indelible mark, vanity, when it has once deeply stained a female bosom, can never be washed away. But I am wrong—there is a fount in which sins may be cleansed, and there are some penitent Marys, who

> " O'er the faults of former years,
> Have wept and are forgiven."

Drawing.

Drawing is the art of representing by means of lines upon a flat surface, the forms of objects and their relative situation. This accomplishment, so conducive to refinement of mind, is at once useful and ornamental. Every gradation in the art is pleasing, from the sketch of a simple flower to the grandest historical design. All the arts which tend to the embellishment or comfort of civilized life, depend essentially on drawing.

Painting has for its basis the art of drawing; how much then do they err, who attempt to teach it to those who have not learned the principles on which drawing depends! A few years since it was not uncommon for pupils in female schools to use paints as soon as they began to draw; or at the most only a few sketches of flowers or landscapes, made without rules or principles, were required.

In no art or science, perhaps, is genius more necessary than in drawing. But genius, to be successful, must be assisted by rules of art, and especially by a close observation of nature, on which the fine arts are founded.

Some knowledge of the principles of geometry is very important for the pupil in drawing. The practice of drawing geometrical figures, and maps, besides its importance as an auxiliary in your studies, is a very useful exercise in drawing.

Drawing is an art, in the attainment of which great industry and perseverance are necessary. The pupil should commence with perpendicular and horizontal lines, (which are by no means as easily made as some may imagine,) and proceed to curves, circles, ovals, cones, cylinders and squares.

After practising until these various figures may be easily made, parts of buildings, as arches, columns, doors, and windows, may be next attempted. Flowers and fruit are drawn much more easily than figures, which require accuracy in horizontal and perpendicular lines. Trees require much study; the various forms of foliage, the direction of the branches, as pendant, erect, or horizontal, the nature of the bark, and the characters of the trunk, should all be studied from nature. Good copies are of great use, but every pupil of taste and genius will be led to the observation of natural objects.

It is indeed one of the great recommendations of the study of drawing, that it gives a new interest to the visible creation, and awakens in the mind new sources of enjoyment. The simple wild flower, the decayed tree, the ruined building, and the wild cascade, all present to the artist objects which please in contemplation, and which he delights to copy. The various forms and tints which are reflected to the eye from clouds, from the sky at sun-rise, or the pensive evening twilight, all are poetry and beauty to the soul of the painter. He regards with attention and admiration the pure blue sky of the zenith, as it contrasts with the darker hue of the horizon, variously affected by the situation of the sun, and the reflection of its rays upon the vapors which float near the surface of the earth, appearing red, violet, or rose-colored.

The imitator of nature beholding the distant mountains in their faint, blue outlines, might in the words of a kindred spirit, exclaim—

> "Why do those cliffs of shadowy tint appear
> More sweet than all the landscape smiling near?
> 'Tis *distance* lends enchantment to the view,
> And robes the mountain in its azure hue."

And if a moralist, he may add:

> "Thus with delight we linger to survey,
> The *promised joys* of life's unmeasured way;
> Thus, *from afar*, each dim-discover'd scene,
> More pleasing seems than all the past hath been."

Objects which to others may be disagreeable, give rise to the finest productions of the artist. Wherever the marks of time appear, he is delighted to seize upon, and immortalize the ruins;—the decayed cottage, with its sides and roof covered with moss, the dilapidated church, or castle, afford more picturesque objects for the pencil, than the neat farm-house, or the modern edifice. Thus a rustic in ragged garments, mounted upon an old and lean horse, is more picturesque, and affords opportunity for a more graphic delineation, than a well-dressed man upon a sleek-looking pony.

In drawing from copies, a rule and compass should not be used, except in measuring buildings.

To the beginner it is useful to draw lines across the copy and the paper on which the delineation is to be made, marking them both into an equal number of squares: thus the objects in the squares on the copy may be easily and correctly transferred. Threads, instead of lines, stretched across, are equally useful to the learner, and less injurious to the pictures. In drawing a landscape from nature it is well to select a gentle elevation with a large circumference of horizon. The scene to be copied may then, in imagination, be divided by certain perpendicular lines; these, by being marked on the paper and intersected by what is termed the horizontal line, have the same effect in measuring distances, as the squares in the method just described.

There can be but one point of sight in drawing a landscape, or but one spot at which the eye of the spectator is supposed to be fixed, from which, as from a point, all the objects must be comprehended. Sixty degrees of the horizon is considered as being the angle of vision; that is, considering the eye as the centre of a circle, and the horizon its circumference. Now you will perceive, that the objects nearest the eye, or on the foreground of the picture, must occupy much greater space upon the picture than distant objects; of course, we can represent a much greater number of objects in the distance.

In copying a flower from nature, it is proper to begin with the centre and proceed outwardly with the leaves, placing them one above another in a manner corresponding to their natural arrangement.

The drawing of the human figure is the most difficult, as well as the highest department of the art. It constitutes, indeed, a distinct branch, and it is absurd for one who has painted a few landscapes or flowers to suppose herself capable of execution in this with accuracy.

Few young ladies attend to drawing sufficiently to become proficients in the delineation of the human figure. When many years of undivided and close attention are required to form a tolerable artist, neither school-girls nor their teachers should be censured, if, after a few months practice, the former cannot rival Raphael or West.

A knowledge of Geology is of use to the landscape painter, as it teaches the distinctive characters of rocks, and their modes of stratification, the characters of mountains, and of the different formations of the earth. An acquaintance with botany is also useful in flower-painting; without this, some very distinctive characteristics of particular species of plants might be disregarded in their delineation. A knowledge of flower-painting is also very important to botanists, by enabling them to make sketches of the various vegetable productions.

Among the different modes of painting is *Oil painting*, the colors of which are the most durable, and in which the shades may be made to blend in the most perfect manner.

Mosaic painting consists of an imitation of objects by means of a union of very small pieces of marble of various colors fixed in stucco, or mortar. If this is well executed, it will remain to remote ages without decay. Fine specimens of this in copies of the great Italian masters, are to be seen in St. Peter's Church at Rome.

Fresco painting is performed with colors diluted in water, and laid on a wall newly plastered, with which they incorporate; they are almost as durable as the mortar itself.

Painting in water colors is often called *limning;* it is performed with colors mixed with water. This is the kind of painting most convenient for ladies; it can be performed with neatness, and without the disagreeable smell which attends on oil painting; the latter, however, possesses many advantages over the former, and should be studied by all who aspire to great eminence in the art.

Pencil and India ink shading appear neat and tasteful, and considerable perfection may be attained in them with comparatively little study.

Velvet, Chinese painting, &c., are methods by which handsome pictures are made, but they are almost wholly mechanical operations, and neither afford evidence of genius, nor have they a tendency to refine and elevate the taste, like most other departments of the art.

Drawing is considered the elder sister of painting, as it is the younger of geometry. The attempt to imitate by lines, upon a flat surface, the forms seen in nature, was the commencement of the art of drawing.

The Greeks had a tradition, that drawing and sculpture took their rise from a young girl's drawing a shadow of her lover upon the wall, which her father cut out and modeled in clay. In the early attempts at drawing, there may be distinguished several periods: 1st. Objects were delineated by rude shapeless lines; for instance, an oval represented a head. 2d. These drawings were colored over with black, or some other color, and the eyes, eyebrows, nose, mouth, and hair, were marked with white upon the dark surface. 3d. An attempt was made to give animation to pictures by representing the different colors of the drapery. It was in this way, according to Homer, that Helen and Andromache embroidered tapestry. 4th. Prominence and relief to objects was commenced by drawing lines in the back ground. These attempts soon showed what the power of the art might accomplish, and we find the Greeks, in the days of their glory, pre-eminent for their perfection in drawing and sculpture. The teacher of the great Apelles required his pupils to remain with him ten years.

The Egyptians, as appears by the figures represented on walls of ancient temples and catacombs, appear to have made some progress in the art of drawing. These pictures are supposed to be hieroglyphical representations of historical events, or mythological fictions.

The first of the Greeks who contended for the prize of painting at the public games at Corinth and Delphi, was Penænus, the cousin and pupil of Phidias, a celebrated artist. Zeuxis, and his rival Parrhasius, about 378 years before Christ, carried the art to great perfection. The latter is said to have excelled in throwing into his paintings a striking expression of grace and dignity. He became so arrogant on account of his successes that he clothed himself in purple, wore a gold crown upon his head, and pretended to be a descendant of Apollo.

Apelles connected, with a correct delineation of nature, a highly finished and flattering coloring, and was considered as a master of portrait painting. But the fine arts, poetry and eloquence, sunk with the liberty of Greece.

The Romans long remained indifferent to the art of design, and, in the height of their glory, never attained to Grecian perfection in any of the fine arts. After the introduction of Christianity, the art of painting seemed to revive, and most of its finest productions for ages were connected with the Christian faith. In the fourth century the custom of placing the pictures of saints in churches, extensively prevailed, both in the Eastern and Western Empires. Artists, stimulated both by genius and religious zeal, strove to excel each other in the execution of their works.

In the 13th century, the art received in Italy a new impulse, from the labors of Michael Angelo, Corregio, Raphael, Titian, Leonardi de Vinci, and several others almost equally distinguished.

The various artists of Europe are considered as constituting *schools*, each of which has its peculiar manner or style of painting.

The *Florence School* is distinguished for greatness, severity and majesty; at the head of this was Michael Angelo, who delighted in being great and terrible, but sought little aid from grace or beauty. His knowledge of anatomy gave him great power in representations of the joints and muscles; for which reason he often made choice of emaciated figures. The monk, or hermit, attenuated with the severity of his vigils and abstinence, but with a countenance beaming high, and sublime thoughts, was a fit subject for his pencil.

The *Roman School* had at its head, Raphael Sanzio; he was distinguished for his accuracy in copying nature, rather than for brilliancy of imagination. It was observed by a German artist, that "if the Greeks sailed with majesty between heaven and earth, Raphael walked with propriety on the earth."

In the *Venetian School,* Titian (whose real name was Taziano Vecelli) was conspicuous. This school was distinguished for skill in the use of colors, for powerful effects, by contrasts of lights and shades. It was confined principally to oil paintings, while the Florence and Roman schools painted in water colors, or fresco.

The *Lombard School* was distinguished for grace and softness; Antonio Allegri, usually called Corregio, was the founder and chief of this school.

The second *Lombard School* was distinguished for the brothers called the Caracci, each of whom excelled in particular departments of the art.

The *French School* presents so many varieties of manner, that it is difficult to ascribe to it any prevailing characteristic. Poussin, who is called the Raphael of France, had no pupils, and formed no school. His works are distinguished by an antique appearance. Le Brun was a painter of invention and great power of execution. He studied the expression of the passions, and acquired much skill in their delineation.

The *German School*, like the French, consisted rather of isolated individual artists, than an assemblage whose works were characterized by uniformity of manner. Albert Durer was an engraver and painter. His works, though numerous, were correct and finished, but not remarkable for taste, beauty, or sublimity. Holbein excelled in historical and portrait painting. One of his pictures, the "Dance of Death," is remarkable for a mixture of the grotesque and horrible.

The *Flemish School* is said to have discovered, or, at least, first extensively practised oil painting. Peter Paul Rubens was at the head of this school. He excelled equally in fruits and flowers, historical, portrait, and landscape painting. He seemed to possess the power of embodying, with perfect ease, the sprightly and beautiful conceptions of a mind rich in fancy, and glowing with the inspiration of genius.

The *Dutch School* is peculiar for the subjects which occupied the attention of its artists. The ale-house, the tavern, the mechanic's shop, seemed to afford the scenes which most delighted them, and called forth the efforts of their genius. This school is distinguished for correctness of perspective, fine representations of clouds, sea-scenes, animals, fruits, flowers, and insects, and excellence in every thing which requires faithful imitation, or brilliant coloring and niceness of execution.

Rembrant Vanryn, the son of a miller of Leyden, is celebrated for his grotesque figures and low scenes, upon which he devoted much study and talents, perhaps equal to any of the masters of antiquity.

The *English School* numbers many respectable artists, among whom are Vandyke, a pupil of Rubens. Lily, a portrait painter, is chiefly celebrated for his pictures of females. It has been objected to him, that his faces had a sameness of expression, a certain air of languishing softness and sweetness, and the partly closed eye, which seemed to reveal tenderness and sensibility. But this, according to a wit of that period, was more the fault of the females, than of the painter, who wished to please his employers. Hogarth, the son-in-law of a painter, is exceeded by no artist, in works of humor. Sir Joshua Reynolds, is considered the founder of the ***English School*** of painting; he united science to art, and did much towards reducing to system, scattered facts and principles.

No artist in this school is more celebrated than our own countryman, Benjamin West, who was, for many years previous to his recent death, President of the Royal Academy of Design in London, and acknowledged as the first painter of his age.

American artists have, in general, found in their own country less encouragement than abroad; for this reason, and for the purpose of studying the ancient works of art with which Europe is enriched, many spend their days abroad, and add that lustre to the arts in foreign countries which should have been secured to their own.*

There are three distinct provinces in painting, viz.: such as have for their subjects *man*, the *lower animals*, and *inanimate nature*. The first is termed *historical painting*, and includes not only subjects taken from history, but allegorical representations and scenes from real life. This is the highest department of the art, requiring in the artist a lively conception of human passions, and their various external appearances, a knowledge of anatomy, comprehending not only the joints, but the muscles of the body, and the almost infinite variety of expression which may be produced by their changes. Thus the contraction of two small muscles in the upper lip causes a look of contempt; while nearer the cheeks, the expansion of two other small muscles, and the contraction of the corresponding ones gives an expression of complacency and condescension. The historical painter must not only understand, and be able to express the effect of the different passions upon the countenance, but is required to delineate with accuracy the most insignificant member of the body. A bad hand, or even a disproportioned finger is sufficient to mar the beauty of the finest picture. Especially must the painter be able to group his figures in a picturesque manner, so that the *tout ensemble* shall make a striking and agreeable impression. In order to produce this effect, he must first have the conception in his own

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The "Lives of distinguished Painters," in the Family Library, will be found interesting and useful to the young reader.

mind. Chateaubriand says, "the *universe* is the *imagination of God* rendered *sensible.*" The painter, though not possessing power to bring into real existence, or to give life to the images in his mind, can, by means of the canvas, transfer them to the minds of others. Hogarth was peculiar for the power of retaining in his mind's eye the various living scenes which passed before him, preferring to copy from these pictures, and taxing his memory with retaining them, rather than the dry rules of his art.

The *painting of animals*, although considered distinct from *landscape painting*, is yet intimately connected with it, as landscapes are, in general, rendered more interesting by the introduction of living beings, as cattle grazing, or flocks reposing. Landscape painting admits of human figures, as seen at a distance; but the character of such paintings is lost by giving to figures too important a place. Rocks, ground, foliage, buildings, sky, and water, allow to the landscape painter a wide scope in coloring. Every true painter will possess his own style of coloring, as much as every author of genius his own style of writing; and it is as impossible for such a painter to convey his art to another, as for the writer to transfer his own power of expression.

Genius has never failed to command respect, even among the rudest people, and the most uncultivated state of society. Henry VIII. of England, a vain and licentious king, was proud of patronizing Hans Holbein, a distinguished painter of the German school. The artist was one day deeply engaged in finishing a work for the king, and being interrupted by the entrance of a great lord of the court, very unceremoniously turned him out of his room. The courtier, on making complaint to his majesty of the impudence of the painter, received the following answer: "Of seven peasants I can make as many lords, but God only can make a Hans Holbein."

We have already remarked that females do not often pay sufficient attention to the art to excel in historical painting. There are some ladies in our country, who, by their copies of eminent paintings, have discovered a high degree of talent; and could they have the opportunity of traveling for improvement, of devoting years to the study of the first works, and in the society of distinguished artists, their names might hereafter be enrolled among those who have gained, by the productions of the pencil, a name for future ages. But there are many causes to prevent females from aspiring to eminence in the fine arts, among which may be mentioned their physical constitutions. Few possess the firmness of health to endure years of such unremitting labor as are requisite to form the artist. Angelica Kauffman became celebrated for her admirable productions, even in Italy, the land of painters. On going to England she received the most flattering attentions, was invited to paint the whole royal family, and made a member of the Royal Academy of the Fine Arts. It was here also that she became the victim of a most cruel revenge. An English artist having been rejected by Mademoiselle Kauffman, selected a dissolute footman, of a handsome person and insinuating manners, whom he very richly dressed, and caused to be introduced to her as Count Horn, a nobleman of distinction. A foreigner, and imperfectly understanding the language and manners of the country, she became the dupe of this artifice, which was triumphantly disclosed after she had become the wife of the pretended Count. She easily obtained a divorce, but allowed an annuity to the wretch who had lent himself to so base a plot. She died in Rome in 1807, leaving a large fortune to charitable institutions. Angelica Kauffman was highly esteemed by Dr. Johnson and other distinguished literary men, as well as the first artists of the day, and formed one of the most brilliant ornaments of a coterie of ladies, with whom such men were proud to associate. Among these ladies was a Miss Moser, distinguished for the beauty and delicacy of her flower-painting, and who was also a member of the Royal Academy. These are almost solitary instances of females being publicly recognised as artists.

Mrs. Damer, an English lady of high descent, of distinguished beauty and grace, and the star of the fashionable world, became suddenly the votary of the fine arts, especially sculpture. The following is the account given of the trifling circumstance which first caused her devotion to this art. When not over twenty years old, as she was walking with the historian, David Hume, a little Italian desired them to look at some plaster-figures. Mr. Hume good-naturedly examined and praised them, giving the boy a trifle for his encouragement. His fair companion afterwards satirically related this in company, with an intimation that a grave philosopher might better occupy his time than in attention to paltry plaster-images. Hume gravely replied, "those images, young lady, were not made without the aid of both science and genius—with all your attainments, you cannot produce such works." Thus challenged, she privately procured modeling tools, and in a few days presented to her monitor a head moulded in wax. "This," said he, "is clever. You have found it no easy task; but it is much easier to model in wax than carve in marble." With a resolution which always attends those who make great attainments, she procured marble, and the proper tools, and with great ingenuity copied the bust which she had made in wax. Soon after this, the public learned with astonishment, that Mrs. Damer, the only and beautiful daughter of Marshal Conway, had forsaken the circles of fashion, banished from her mind all pretension on the score of high birth, and was resolutely seeking to distinguish herself by what she felt to be the only true nobility, works of genius. She was now to be seen in a close cap, to keep the dust from her hair, and a long apron to preserve her damask gown and satin slippers, working in wet clay, or with an iron hammer in one hand and a steel chisel in the other, cunningly carving heads in marble. Although we cannot but admire the energy and enthusiasm of this lady, we still feel that she stepped out of the legitimate province of woman: and that it was so, appears from the fact, that with all her efforts and perseverance, she did not attain the rank even of a second-rate artist. Had the same talents and industry been employed in some manner more suitable to the delicacy of her frame, and the duties of her station, how much might she have benefited and improved the world!

We have now, my dear pupils, considered the various branches included in a liberal course of female education. We have seen that the great object in view is not to form beings to dazzle the world with a glittering and transient splendor, but to give to society women with minds strengthened and prepared for the various duties of life, and capable of appreciating and rightly directing their influence.

The sphere of woman's duty is to be looked for in private and domestic life; and although she may and ought ɔ all in her power to elevate, refine, and embellish all comes within her own circle, she should be cautious ıffering her desires to extend beyond it. If genius, ımstance of fortune, or I might better say, the provi- ɔe of God, assigns to her a more public and conspicu- station, she ought cheerfully to do all that her own ers, aided by the blessing of God, can achieve; and as ıs human feelings will allow, act fearlessly of human ıure, looking to a higher tribunal for the reward of her rs.

PART V.

MORAL AND RELIGIOUS EDUCATION.

LECTURE XXV.

Connection between Moral Education and the Emotions.

Moral education.

HAVING considered, individually, the various branches of female education, we shall now turn our attention to subjects connected more immediately with our *moral natures*. It has ever been my object to impress upon your minds the great truth, that our chief concern in life should be the cultivation of those faculties which will fit us for intercourse with the virtuous on earth, and the blessed in heaven. How often does the world exhibit those who, with high intellectual endowments, are low and groveling in their moral tastes; whose very breath seems contagion, and whose examples have a blighting and sickly influence upon the characters around them! Thus we see that towards the perfection of the human being, something more is necessary than intellectual improvement.

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In common language, the head is spoken of as being the seat of the intellectual powers, and the heart of the emotions. This, however, is not philosophy; since we have no reason to suppose that the mind is divided into different portions. Yet we know that when studying intently, or otherwise exercising our reasoning powers, the head seems affected as if the labor were there; while joy,

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any other powerful emotion, [illegible] of the heart, [illegible] it; thus we speak of a [illegible]

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acknowledge the brain to be the [illegible] in which the senses [illegible] their media operate, [illegible] changes, by which [illegible] communicate with the [illegible] we cannot enter upon [illegible] and mind. Though [illegible] of thought and feeling, [illegible] can observe no [illegible]

Education is either physical, intellectual, or moral. *Physical education* depends on that class of mental operations called *sensations*. *Intellectual education* consists in the cultivation of the *reasoning powers*, *memory*, *imagination*, &c. *Moral education* is addressed to that order of our feelings known under the general term, *Emotions*.

You will perceive then, that the three departments of education which have been named, have a distinct reference to the three divisions of the mind, which appear to include the whole of our mental operations.

It is important then, in entering upon the subject of moral education, that we should examine into the nature of the emotions, or of those feelings which are either to be cultivated or repressed. The term moral is used here in its most general sense, including our religious affections, which are founded in our emotions.

If man had been formed with only a capacity of sensation, he would not have been superior to the brutes—but with the intellectual faculties superadded, he is raised far above them—reason and judgment enable him to subject creation, animate as well as inanimate, to his controlling power—memory gives him back the past, and imagination, with her magic pencil, pictures forth scenes ludicrous and wonderful, beautiful and sublime.

But had the Almighty here withheld his gifts; had he not endowed us with the capacity of emotion, how cold, how dead, and how valueless would have been our intellectual nature! We should have felt hunger and thirst, and needed food to sustain us; we should have been susceptible of cold, and needed clothing to cover us; we should have possessed the judgment to provide means for the supply of our wants, and might have "lived and moved, and had a being" in the world. The astronomer and mathematician might have pursued their calculations; the geologist examined the rocks, and reasoned upon their formation and changes; the botanist might have studied the wonders of the vegetable world, and the metaphysician have sought to penetrate the mysteries of mind—but to what would all these speculations tend, without the capacity of emotion? Especially of that grand and sublime emotion, which gives to the study of nature its highest charm, love to God, and admiration of his power and goodness.

What would be the state of human society, were it not for friendship, and the various other forms of love, *filial*, *parental*, and *conjugal?* Without a *desire of pleasing*, and the alternate light and shade of *joy* and *sorrow*, *cheerfulness* and *melancholy*, what a monotonous picture would life present! Where would be the incentives to effort, if the *love of fame* and the *desire of doing good* were taken from the mind? But all our emotions are not such as lead to good and happiness. Why, we may ask, is given us the capacity for *anger*, and *revenge*, *hatred*, *envy*, *avarice*, and *pride?* Without attempting to show what, in many cases can be clearly proved, that from all "this *seeming* evil, is universal good," it is sufficient to know, what the Almighty has seen fit to inform us, viz. that when he created man, he pronounced his work "good;" but man, by falling into sin, brought confusion into his nature, and now exhibits a strange contrariety of good and bad propensities, and a continual struggle between virtue and vice.

Moral education should be so conducted as to strengthen and mature the better feelings of our nature, and control those which tend to evil. I am not about to enter into a metaphysical consideration of the nature of our moral feelings; but I think it necessary to explain to you what I mean by the term emotions, in order to show the relation of this order of our faculties to moral education. You will remember, that, following the division of some late writers on the mind, we have considered all the mental phenomena as comprised under three classes—sensations, intellectual powers, and emotions. In considering physical education, we treated of sensations; under the head of intellectual improvement, we remarked upon the various mental powers, towards the cultivation of which it was directed.

We will now examine into the nature of emotions, and their connection with our moral and religious characters.

It is difficult to express by words the difference between emotions and intellectual states of mind; and so it would be to point out the difference in the taste of sugar and salt, except by referring to the substances themselves. We must then refer to the experience of every individual for the difference between reasoning and loving, or remembering and hoping.

In common language, the head is spoken of as being the seat of the intellectual powers, and the heart of the emotions. This, however, is not philosophy; since we have no reason to suppose that the mind is divided into different portions. Yet we know that when studying intently, or otherwise exercising our reasoning powers, the head seems affected as if the labor were there; while joy, grief, or any other powerful emotion, seems to quicken the pulsation of the heart, to impede its motion, or otherwise to affect it; thus we speak of a light or heavy heart.

All that we know respecting the influence of certain mental operations upon the brain, and others upon the heart, is the existence of the fact. We know, too, (because God has revealed it to us,) that when the brain shall have lost its living principle, and the heart shall have ceased to beat, the mind which once acted upon them will be no less active in its disunited state.

Phrenology asserts that the mind resides in the brain, and its different faculties in different portions of the cerebral organs. One of the most powerful advocates for this system (Dr. A. Combe) says: "*In education, it is the brain, and not the abstract, immaterial principle which requires cultivation.*" By those who have been accustomed to consider the mind as indivisible, and also differing essentially from matter in other respects, a theory which thus assimilates mind and matter, bringing them under the same set of laws, cannot be received, without very strong support from established facts. It is rather a startling assertion, that in education, *not mind*, but *matter*, *is to be cultivated.*

We acknowledge the brain to be the great *sensorium*, or organ, in which the senses all terminate; we are able to trace their *modus operandi*, or to ascertain the series of physical changes, by which each particular organ of sense communicates with the brain; but here we must stop, for we cannot seize upon the connecting link between matter and mind. Though it is probable that the brain is the seat of *thought* and *feeling*, as well as of sensation, yet as we can observe no external operations which give light upon this subject, our views here must, after all, be merely hypothetical. Dr. Combe himself acknowledges that "the structure of the brain is so complicated, that less is known of its true nature than of that of almost any other organ." And yet, every young phrenologist assumes to inform us what portion of the brain *imagines*, what *hopes*, what *wonders*, and finally, the very spot where is centered our *veneration* for God, and our *conscience*. If these faculties have thus a local habitation, and if, by any accident to the head, the organs of veneration and conscientiousness should be paralyzed, how can the soul be saved, whose hopes of salvation depend upon the proper exercise of these faculties?

It must be acknowledged that phrenology has unfolded many new and interesting facts, with respect to the mental phenomena, and promises much, by turning popular attention to a subject so interesting and important. But I am not aware that this science has yet introduced any very important improvements in education. It tells us "the faculties must be cultivated;" this truth was known, and practised upon, long before phrenology, as a science, existed. It was, indeed, the cultivation of the faculties of mind, rather than the cultivation of the brain, that was aimed at; though it is possible that the developments of the brain were, in fact, promoted by this cultivation. The educator ought to know the predominant faculties in the mind of his pupil; but there is, in my opinion, a surer way to ascertain this than by examining his cranium; and this is by observing his actions. If he is quarrelsome and contentious, this disposition ought to be checked, whether the organ of *combativeness* be prominent or not. It is admitted that the main point in moral education is to restrain the bad propensities, and cultivate the good;—now if these propensities are early manifested in the conduct, it follows, that, if phrenology be true, it only teaches us what we can, in a less equivocal manner, learn in another way. But if the predominant faculties did not manifest themselves in the tastes and actions of the young, a science such as phrenology professes to be, would be of inestimable value;—for instance, if imagination did not discover itself in attempts to embody its creations in poetry, works of fiction, or sketches with the pencil, the phrenologist, by discovering the organ of *ideality*, might, by giving due information thereof, bring out the poet, novelist, and painter, and thus enrich society with the productions of genius, which, but for such discoveries, would never have had an existence. Yet Shakspeare, and Milton, without any assurance from phrenology that they were gifted with ideality, ventured lofty flights into the regions of fancy. But the busts of these two great men do exhibit the organs which are said to denote the peculiar powers for which they were distinguished. There are, indeed, many striking facts which go to prove that certain mental faculties are connected with a peculiar conformation of the head. Yet, while I make these concessions to phrenology, and would recommend its study as curious and interesting, still, I cannot see that its practical applications fulfil the promises it has made, nor does it enlighten us with respect to a subject, which I believe to be beyond the reach of human investigation—the *essence* and *exact location* of the mind.

Admitting that the brain is the *chief seat* of our mental operations, still we know that the nerves, which extend in minute ramifications to every part of the system, are formed of a substance similar to, and emanating from, the brain; how do we know, therefore, that each set of nerves does not, in proportion to its quantity of matter, bear its part in the mental operation peculiar to the organ from which it proceeds; and therefore, that the mind operates in every portion of our body, though the capitol of its empire may be the brain? This, I acknowledge, is a vague hypothesis, and so must be every doctrine which attempts to render the mind tangible, or to fix its location with as much certainty as we do that of the eye or ear. We have no sense by which we can discern mind; we must, therefore, be content to observe it in its operations.

It seemed proper to make a few passing remarks on a system which is at present so popular as phrenology, and which is defended by so many able writers. But still I am not prepared to give up, for this new system, all the advances hitherto made in the science of mental philosophy, and shall therefore proceed in my remarks upon the emotions, without reference to phrenological distinctions.

Whilst all writers agree, that there are affections of mind very different from what some call intellectual, others reasoning powers, powers of the understanding, &c., there have been different arrangements made of these affections. Some have imagined a generic difference between *passions* and *emotions;* others have considered the *affections* as still a separate genus. Thus Lord Kaimes considers an emotion as less powerful than a passion. Dr. Cogan reverses this order. The latter says, a passion signifies being *passive* under a feeling; while emotion means the expression of the feeling by outward acts. The *affections*, he considers to be a milder form of the passions.

The term *active powers*, which some writers have appropriated to this class of our mental operations, seems not well chosen. Is the mind less active when planning chemes for the accomplishment of some object, than in he *desire*, or *wish*, which sets the inventive powers in opeation? Why then should we call the desire active, any more than the reasoning?

Although under the general head of emotions, are omprehended passions, affections, &c., still these terms re proper to express different degrees of mental excitement. Passion is an intense emotion; affection denotes moderate and gentle state of feeling. When you consier that this class of our mental operations includes all ur desires, our hopes and fears, our love and hatred, nd our moral and religious feelings, you will perceive, hat as they are well or ill-directed, the character will be irtuous or vicious.

If the young mind has early acquired a love of virtue, nd hatred of vice; if it has learned to desire the improvement of its nature in all that is good and praiseworthy, and to fear moral degradation as the greatest of vils;—if its moral emotion has been preserved from the ontaminating influence of custom, fashion, and habit, en has its moral education been successfully conducted, nd received the blessing of God. But if no restraining nfluence has been exerted to control the passions and deires;—if pleasure has been allowed to fix her empire in e heart, and virtue rendered subservient to her caprices; the love of self, and self-indulgence, has habitually iumphed over the better feelings of the heart, how little oes the youthful character present which a virtuous mind an delight to contemplate! That beautiful female, graceful in manners, elegant in conversation, enlightened in intellect, but selfish, vain, and unprincipled,—a prey to degrading passions, to envy, hatred, and malice,—with no higher motive than human praise, and seeking no higher enjoyment than in pleasure; whose influence tends still to degrade and lower her standard of moral feelings; do you envy the fascinations of her beauty, or talents? Do you not feel the wish that you may, above all things, possess moral goodness? Little, indeed, could be expected or hoped from a young person who could look with indifference upon moral depravity, even if decked with the most fascinating allurements.

A strong desire for moral excellence, and a consequent dread of moral depravity, seems to be peculiarly necessary in youth, when so many obstacles are to be overcome, so many passions subdued, and so many temptations resisted. "What spectacle upon earth," says a French writer, "is more interesting, and at the same time more natural, than that of a young heart, opening at once to the emanation of virtue, and the affections of life; devoting itself as a consecrated priest to the worship of excellence, with all the enthusiasm of its age, and with feelings yet unsophisticated? The meditations of youth are full of seeds; its actions are promises; its days are rich with the future. It fears no withering; it is disconcerted by no doubts; it has not yet been deceived, and suspects not what the terrible experience of the world will teach it. How precious is this enthusiasm, which makes virtue so easy;—this serene innocence, which conceives no danger; this earnestness of soul, which, in aspiring to the best, hopes to realize the vision upon earth! How sad is that dissipation of mind in which those treasures are wasted! that excite-

of the passions which quenches these hopes! that
unate experience of life which destroys this faith,
ouds this vision of excellence!"

ue it is that the beautiful visions of human virtue
rfectibility which float through the imagination, and
the hearts of the young, are sadly marred by expe-
both of themselves and others; that instead of find-
e pathway of virtue always easy and pleasant, trials,
ations, and calls for self-denial, meet them on every
-but these are the means of maturing that virtue
the young admire;—without contest there can be no
; and it is by much tribulation that we shall, final-
fitted for an entrance into that world, where sin and
cannot enter.

LECTURE XXVI.

eelings on which the moral and religious character is founded.

ORAL education commences at a much earlier period
s generally imagined. When a babe cries for what
ts, it has already begun to be imperious and selfish.
nothers appear to be sensible how much the future

character of the child depends on the direction the mind receives during the first years of life.

That the temper of a child may be rendered mild or irritable, according to the treatment it receives, is a fact known to those who observe the operation of infant minds. The child who is at one time indulged with excessive fondness, and at another, refused a reasonable gratification, soon becomes capricious and obstinate; it feels the necessity of setting up a government of its own, since it has no confidence in that of its mother.

A mother must know how to govern her own passions before she is fit to direct those of a child. And as it is very possible that every young female may, in time, sustain this important relation, she should be early disciplined to self-government.

Many who now listen to me, whose hearts have hitherto felt little anxiety for others, whose thoughts have been chiefly engrossed by their own persons, or the cultivation of their own minds, will, at some future day, regard their own health and happiness, as but secondary to the well-being of those who will owe existence to them. When such claims upon your care and attention shall exist, then will you feel the value of that education which has given you some knowledge of the human mind, and of its tendencies.

We will remark upon some of the emotions which are most powerful, and have the greatest influence upon moral character. *Anger* is one of the earliest feelings which a child exhibits; its effects even in infants may be witnessed in the manner in which they reject whatever is disagreeable. The child of a few months throws away, with an appearance of anger, a plaything which does not please it, or violently kicks its tiny feet when laid upon the floor, contrary to its inclination. How is this passion to be calmed and corrected? A mother, who is herself passionate, may become angry with her child and beat it,—this is a sure way of strengthening the passion, for in addition to the original impulse operating on the mind of the child, *is the example,* to the imitation of which the emotion of *sympathy* strongly prompts.

If anger is suffered to operate upon the young mind of a child, without proper and effectual discipline—if it grows with the growth, and strengthens with the strength, it will be very difficult for him in mature years, though aided by reason and conscience, to require a command over his temper.

How many persons do we hear lament the want of government over their passions, and attribute it to a defect in their early education! It is indeed a great misfortune not to have been early taught this important lesson. But when this is the case, greater caution and vigilance should be used against falling into temptation.

The forms of anger are various: in some cases it exhibits itself in a sullen obstinacy, in others by peevishness or revenge; but in whatever way it appears, it is always unamiable to others, and distressing to the individual who indulges in it. A virtuous *indignation* against vice, and personal injury, is consistent with purity and consistency of character.

Selfishness is love directed towards ourselves. This feeling may become so strong as to absorb all the better emotions of the heart. No child, properly educated, would be excessively selfish. A mother observed in a child a strong propensity to selfishness; without giving her any long lessons upon the meanness of the quality, she endeavored to make her comprehend the pleasure of imparting to others. At nine years of age this little girl was heroically generous. Said she, one day, "Mamma, you know when *I* WAS YOUNG I was very selfish. I remember the first time I enjoyed giving any thing away. You had given me some fruit, and said I must share it with my sister; I did not like at all to do it, but feared to disobey you. While my sister and I sat together, eating the fruit, I thought how pleasant it was to see others happy; after that I did not want things all to myself."

Jealousy is a painful, degrading emotion; it often appears in very young children; even the babe will appear troubled at seeing its mother caress an older child. Inconsiderate people laugh at this, and perhaps increase the uneasiness of the infant by affected fondness for other children. We cannot too early endeavor to clear our bosoms from this tormenting feeling; do you look with unhappiness upon the beauty, talents, or accomplishments of a companion? this is jealousy, from which you should flee with horror, as from a serpent, seeking to entwine you in its fatal folds.

A jealous disposition transforms light into darkness, beauty into deformity, and kindness into insults;—the more amiable, lovely, and elevated the beings who surround the jealous person, the more food does the bitter feeling within find to subsist upon; the more generous and forgiving his companions, the more he sees their superiority to himself, and the stronger is his hatred.

Jealousy, in the young, rises not in many cases to such a pitch as to manifest itself in deadly hostility; yet when we hear the whisper of detraction, see the frown of discontent because another has been successful, or witness a sullen nd unsocial withdrawal from the company of young assoiates, we start back in alarm; the serpent may be yet in mbryo, but we see him in all his hateful features, and we now that he will soon require strength to overcome all at is good and lovely in the character. There are alays evil-minded persons enough, who are ready with sugestions calculated to foster and inflame a jealous disposion; they will tell you to see how proud such a one is of er beauty, or her acquirements; how sorry they are to e your merits eclipsed by her pretensions, or to see you eated by her with such neglect. The best way to check ny risings of jealousy is, to repel all such insinuations, eak in commendation of the absent, not, as the poet ys, to "damn with *faint praise*," but to bring forward eir good qualities with sincerity and earnestness. But ow, you may ask, shall we feel thus, if the real tendency f our hearts is to envy and jealousy? This is truly a rious question, and, in the language of Divine inspiraon, I will answer you, "If any of you lack wisdom, (and y wisdom is here meant a right disposition of heart,) let im ask of God, that giveth to all men liberally and pbraideth not, and it shall be given him."

It is very possible that the desire of intellectual attainents may lead to a dangerous emulation, and degenerate to jealousy of a successful rival: you will do well to atch over yourselves in this; and, whenever you feel the nworthy emotion, crush it in its beginning, and resolve hat if you cannot be first in talents, you will not be wantng in moral worth.

It is in contending with the evil propensities of our naure that virtue gains its triumph; why then should we omplain that our Creator has suffered these propensities to spring up in our souls, since he has also armed us with powers capable of overcoming them? What are the propensities of our nature that are to be checked, and what are to be encouraged? This question is the foundation of all moral education, whether of ourselves or others. You, to whom I address myself, are now of an age to be seriously engaged in self-education; after all that may have been done for your improvement by others, you may be able to detect in your own hearts the germs of evil passions which may have been overlooked by them, or you may perceive that the better affections of your nature are languishing and feeble. Search then your own hearts; try your own spirits, and resolve, that, by God's help, you will not follow, or be led by your evil passions, but will endeavor to cultivate all your good affections, and to become as elevated in the scale of moral perfection as your nature will admit.

The emotions of *love*, the *moral* sense, and the *desire of excellence*, are those feelings of the human soul on which the moral and religious character is founded. From these feelings all our duties result; because, if we possessed them not, we should not be accountable beings, and, in that case, *duty* would be out of the question.

The Scripture says, "love is the fulfilling of the law;" the domestic and social relations all presuppose this affection, which, radiating from the circle of our own private attachments, embraces our country, and the whole human race. The moral sense, or as I prefer to call it, the *moral emotion*, is the foundation of human justice, requiring us to "do to others as we would they should do to us."

Religious education is founded in our moral emotions. The child soon learns that his parents, powerful as he imagines them to be, did not create the world in which he lives, and the glorious canopy above; he is taught that every good and perfect thing is the gift of God, and that himself is the workmanship of his hand. Thus he learns to *fear* God as all-powerful; and when he realizes that all his blessings are from him, he *loves* him for his benevolence; as soon as he is old enough to comprehend the sinfulness of his own heart, its proneness to forget his Almighty protector and benefactor, and to wander in the forbidden regions of sin and folly, he sees his need of pardon; and learning that God, through the merits of a Saviour, is willing to accept him on condition of his penitence and faith, he submits himself humbly, and with entire confidence into His hands, both for time and for eternity; he desires to make God the supreme object of his affection, and offers unto him the sacrifice of a broken and contrite spirit. The desire of moral excellence, which is early developed in the heart of the virtuous, waxes stronger and stronger as the religious emotions gain strength and permanency, until, feeling that in this world we can never attain to that standard of perfection at which we aim, we rejoice in the prospect of that change which is to usher us into a new and sinless existence.

PART VI.

ON TEACHING.

LECTURE XXVI.

On the Qualifications and Duties of Teachers.

Teaching a profession.

WHILE by those who are studying with direct reference a future station as teachers, it will be considered esirable that I should devote some portion of my lectures a consideration of their duties, and the requisite qualifiations for their performance; it is to be presumed that ou will all listen with attention to remarks upon a profesion which may be a resource to you all under future icissitudes of fortune.

You will observe that I use the term *profession*. Teachig is, indeed, at the present day considered as a profesion, and a dignified and noble one. A path has been pened for females of energy and talents, in which they iay walk independently, and without feeling that they are ast out from the pale of good society, because they are seful to the world.

In our country, the time indeed has never been, when omen of acknowledged talents and refinements were xcluded from any circle, because they were instructors;

but yet there has been a kind of side-way obloquy attached to the calling. Those who were engaged in it, have been too frequently obliged to assert their rights, and to claim that place which respect and gratitude would have voluntarily awarded to them. In this they have been obliged to do violence to that delicacy which always accompanies true worth; and they doubtless would much rather have retired into obscurity, than have encountered the cold and supercilious glances of those who are unable to see in the qualities of intellect, merit superior to the advantages of wealth. But there is a feeling in conscious worth, which seems to demand justice, and which will seek its own level, whatever may be the opposing obstacles. Many who have seemed aspiring, and haughty when the world has refused them justice, have, under more auspicious circumstances, appeared unostentatious and amiable.

At present, however, there is no cause of complaint against public sentiment as it relates to the estimation in which the profession of teaching is held. Among the first women of our country, first in the most distinguished circles, first in the religious and benevolent societies, first in Sabbath schools, and first in domestic duties, are to be found teachers, or those who have been such; and of all that they have done in life, nothing probably affords them more satisfaction, than the consciousness that they were useful in that profession, and that many a young heart cherishes their memory with gratitude and affection.

Instances are familiar to all those who are acquainted with the history of this institution, of ladies of fortune and high expectations, who have esteemed it a distinguished honor to be permitted to serve as teachers, for the improvement which the situation afforded to themselves, and for he respectability attached to it. And such instances are y no means confined to this institution, but are to be met vith in various others, and in many private situations. A listinguished female writer,* in her letters to young ladies, ays: "I have no hesitation in pronouncing the labor of nstruction more beneficial to the teacher than even to the upil. If a young lady, when her term of school educaion is completed, should devote a period to the instruction f others, she would find the advantage on her own side—ot only in the depth, confirmation, and readiness for use, vhich would enhance the value of her knowledge, but in hat acquaintance with human nature, self-command, and e-action of moral training upon herself, which is above ll price."

Every thing at the present day favors female exertion. ashion herself dares no longer to attempt branding with he epithet of vulgar, the woman who would volunteer to vatch the dawning of youthful intellect, to subdue and lirect the opening passions, and to give an upward aim to he energies of immortal minds. Even in the most fashonable resorts, should such a one perchance seek recreaion where crowds find the business of life, a respectful leference will mark her approach, and folly itself learn to be abashed in her presence.

But at the shrine of fashion, a woman, such as I have imagined, seldom offers incense, nor are its votaries those with whom she most delights to hold converse. Intellect is the strong cord which binds together human hearts; and to those of similar tastes, similar pursuits, and similar cultivation, do the enlightened cling with their warmest affections.

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* Mrs. Sigourney.

You will not understand me as intimating that the profession of a teacher is the only useful and dignified calling of a woman, or that being prepared for it is to preclude her from hereafter exchanging the duties of a school for those of the domestic circle. But it is of great importance to our sex, that they shall be secured against the sad necessity of marrying for the sake of a maintenance. And without some profession or business, how can it in many cases be otherwise? Indeed, who is certain of always possessing wealth, or of having friends able and willing to impart the means of support? In our country, it is especially the case, that families are often supported genteelly from the avails of a profession, mercantile, or other business, with little or no actual estate. Suppose the father of a family of daughters that is thus circumstanced—he is now able to educate them, and to sustain them genteelly in society, but his life is uncertain; and how painful to him must be the thought, that their future support rests upon the uncertain chance of an advantageous marriage—how undignified and mortifying the situation to the females themselves—how does it expose them to pert and unmeaning attentions from unprincipled men, who can turn away and sneer at the delusive expectations which they have raised, with no intentions but to disappoint!

And yet there have been those who have felt that it would be lowering them in the estimation of the world, if they were to prepare themselves to enter upon a business which would give them an honorable and genteel support, and at the same time enable them to be useful to others. A lady, whose early days were spent in prosperity, and under circumstances highly favorable for the attainment of an accomplished education, met with a reverse of fortune: her father lost a lucrative office, and was ruined by hazardous and disgraceful speculation. For a time, some former friends continued attentive; but, by degrees, even those became wearied of assisting one who seemed to have no idea of helping herself. At length, the necessities of the lady exciting the interest of some who were judicious enough to attempt permanent means for her relief. They obtained for her a very advantageous offer of a situation as teacher in a highly respectable female school. Her answer was, that she should be happy to accept the offer, but, that by so doing, *she should lose her place in society!* and this while she was living a useless life, wholly dependent upon charity!

But suppose a lady whom wealth places out of the reach of want. Peculiar circumstances, or her own choice, may cause her to lead a single life. The friends of her youth, one after another, pass away, or are established in families of their own. Her parents are no more; brothers and sisters have families of their own, and she feels that her seat at their board and fire-side is rather endured than desired by them. Would not an active and useful employment be more honorable for this female, than an empty round of pleasures, pleasures for which she has lost her relish, and in which she appears as a monument of antiquity, continually mortified by meeting with those who, younger and fairer than herself, are, of course, more noticed and admired?

There are, indeed, other resources than those of teaching, for ladies of fortune who remain single. Some employ themselves in works of charity and benevolence, some in literary occupations; and there are others who know so well how to adapt themselves to every situation, that their society is courted in all circles, and who may pass over a life of pleasure with tolerable comfort and respectability.

In this country, whatever the wealth of a family may be, it is customary for the sons to qualify themselves for business of some kind. A young gentleman who *professedly* devotes himself to pleasure, and lives without any ostensible occupation, is looked upon, in our busy republic, as a useless drone in the hive. He may expect to live unknown, and die unregretted by the world. No young man of talents, and virtue, although heir to countless wealth, would wish thus to live without end and aim, save the culling of the flowers that pleasure may drop into his lap. Why, then, should our sex be contented to live in idleness, useless to the world, and a burden to themselves? Why should not every female, whatever may be her rank or fortune, aim at something definite, something noble, and fit to occupy the energies of the soul? But look at the lives of many, and what do we see? An existence spent in the vain pursuit of that happiness, which, though it flies from those who make it the chief object of pursuit, follows in the train of those who seek chiefly to be good and useful. It is an attendant upon occupation, though often deaf to the call of amusement.

The profession of teaching is, then, one which is open to those of our sex who are disposed to gain for themselves an honorable standing and support, to be useful to the world, and to cultivate the talents which God has given them. There are three leading motives which may influence the minds of those who become teachers. In different individuals some one may preponderate; but in some cases all may have their influence.

I know ladies, who, without mercy or favor to themselves, possess a system of self-devotion, apparently from no other motive than that of doing the world service, counting nothing on their reward, nothing on the good which may accrue to themselves; they seem to be engaged in a crusade against ignorance and vice, from the most enthusiastic and disinterested motives.

Others there are, that, overlooking its solemn responsibilities, and momentous duties, seem to regard the profession of teachers solely as a source of profit.

Another class, aspiring to a high standard of menal improvement, choose teaching as one of the best mehods of cultivating their own minds, without considerng sufficiently their qualifications for the office, or how far they may be able to benefit others.

It is certainly noble to be willing to sacrifice ourselves, when we are called upon by Providence to do it; but hose who unnecessarily throw aside their own interests, endanger their own healths, and give up their own comforts, fail in duty to themselves, and, in so doing, commit sin.

On the other hand, a teacher influenced wholly by mercenary views, will not be likely to prosper in the undertaking, or to fulfil her duties in their proper spirit.

The selfishness which prompts merely to the wish for one's own improvement, without regard to the necessary qualifications for discharging duties, is by no means to be encouraged. If circumstances make it necessary that a female should support herself, she is justified in fixing on the profession with this view, provided she is suitably impressed with the desire of being useful to others, and never allows selfishness to weigh against the real good of those committed to her charge.

We will now consider some of the *qualifications* of a teacher.

1st. The power and habit of *self-government* may be named as a most important requisite in one who is to govern others. It is impossible to preserve dignity and consistency of character without it. Pupils who see a teacher subject to storms of passion, will neither love nor respect her. A calm, collected, dignified manner will always command deference and obedience. The proverb "Be not hasty in thy spirit to be angry," is in no situation of greater practical importance than that of a teacher. But while the passions are kept in due subjection, a firm and decided spirit must be seen;—a disposition to enforce suitable rules, and to execute justice without fear or favor. A teacher who attempts to govern wholly by mildness and a gentle demeanor, will fail of the object. I have seen such a one weeping in the midst of a mischievous little group, because they "would not mind her." The effect of this, on the little urchins themselves, was only to show them their own power, and the weakness of the authority over them. This is the kind of government which some mothers exercise, who instead of enforcing obedience by a dignified authority, feebly expostulate, "Why, children, how can you so trouble your mamma?" I do not mean that children have not tender feelings which may not often be operated upon to great advantage in governing them; but they must first respect, before they will love their teachers; and when they see them infirm of purpose, and feeble in authority, they are usually disposed to tease and harass them. When they have been made to feel that there is a strong and energetic power over them, they will then feel grateful when silken cords are thrown out to them; and when they see authority, they will respect kindness.

2d. *Decision*, though involved in what I have remarked under the preceding head, deserves a separate consideration. Every rule should be well weighed before it is promulgated, but when once established should never be vioated with impunity. Every attempt at insubordination ought to be crushed in embryo; for, if a teacher is once defeated, or her authority put down, she can expect little obedience.

3d. An *amiable disposition* is of great importance in one whose highest duty is to cultivate social affections, and to repress the dissocial ones. Example is here always better than precept; indeed the latter, unsupported by the former, is worse than useless.

4th. *Patience* is constantly demanded of the faithful and conscientious teacher; patience to bear with that dullness which requires instruction to be reiterated, day after day, with little seeming effect; patience to bear with moral delinquencies, and to suffer ingratitude from pupils and parents. In short, a teacher must have patience with herself: when reviewing her own failings of judgment or temper, she must patiently renew her daily trial, in hope to improve herself as well as others.

5th. A *firm and undeviating integrity* is an indispensable qualification; the more brilliant the accomplishments, or commanding the talents of a teacher, destitute of this, the greater injury may the morals of her pupils sustain through her example. Small as her influence might be among them, still the injury might be incalculable to the young mind who should associate with the idea of an honorable station and high endowments a want of moral rectitude.

6th. *Piety* is certainly very desirable in a teacher; it would however be illiberal to wish to exclude all from the profession, who are not avowedly pious; such an exclusion might be an encouragement to presumption or hypocrisy, on the one hand, and might cut off the services of many who are capable of being highly useful. Indeed, those who are not decidedly religious, often become so, on feeling their responsibilities, as guides to those who are destined to an immortal existence; they are led to reflect on the real destiny of man, and finally perceive that one thing is needful. Besides, in giving mortals instruction, they must go beyond this world for their strongest and most powerful motives to virtue. They find the Scriptures to be their only sure standard of morality, and that without a belief in the retributions of eternity, the young heart will be little influenced by any appeals which may be made to its moral feelings. I can scarcely conceive, then, that any teacher, except one who is absolutely steeled against religious principles by the armor of scepticism, will not in due time yield her heart to the influences of religion. A truly pious instructor gains an influence over the minds of her pupils, which can be acquired in no other way; seeing that her thoughts and aims are heavenward, they look up to her as one whom it will be safe to follow; and whom they should learn to imitate. They perceive in her devotion to her duties a higher motive than mercenary gains or human applause, and learn that though their disrespect or misconduct may grieve her for their own sakes, as she looks not to this world for her own reward, so the things of this world cannot have the power greatly to disturb her ranquillity.

7th. With respect to the *literary attainments* of teachers, these should be appropriate to the situations to be illed. While there is scarcely any branch of knowledge hat may not at some future time be found useful, in every branch of the profession, there are many which are not indispensable. There are instructors needed in various departments, from the teacher of the infant and district chools to the principal of a large institution, where young ladies are to complete their education, and to be fitted for eaching others, or for conducting themselves properly on he stage of life, in whatever situation they may be called o fill.

But who can suppose that to manage children properly does not require talents, and a knowledge of the propenities and moving principles of the human soul? Who can suppose that the finest moral qualities are not essenial in us, who must be subjected to the continual vexaions and trials incident to the care and instruction of an nfant or children's school? And yet the rich are often far less liberal toward the teachers of their children than oward their tailors or milliners; are often less anxious to ecure good instructors for them, than to obtain a good cook or waiting maid. A young lady of talents and refinement was induced, by straitened circumstances, to open a chool for children;—after some months, she called upon a fashionable lady with her bill, for the tuition of a pert and troublesome little girl; the terms were very moderate, but the lady, on looking at the bill, expressed her surprise hat no deduction had been made for days and half days of her child's absence; and after some complaints that she young mind who should associate with the idea of an honorable station and high endowments a want of moral rectitude.

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Every teacher of a primary school ought to understand well the principles of the English language, its rules for orthography and pronunciation, its etymology and syntax; for as reading and spelling are here the main points, it is highly important they should be properly taught. Arithmetic and geography may be here commenced, and the first instruction in these sciences should be clear and simple; for if false impressions are given at the outset, the mind receives a serious injury. Writing is often very badly taught in primary schools; many teachers having neither system, nor practice, it would be better for pupils not to begin at all, than to commence under such disadvantages. Some knowledge of Botany, Geology, and Chemistry, and the principles of Natural Philosophy, are of great use even to teachers of children, as it enables them to give variety and novelty to their instructions, and assists them in rousing their intellectual powers by directing them to the study of natural objects.

To those who are aiming to qualify themselves for the higher departments of teaching, an acquaintance with all the branches treated of in our lectures, under the head of intellectual improvement and accomplishments, would be desirable. It should not however be required, or expected, that a teacher shall be familiar with the whole circle of the sciences and belles lettres; and as the principle of the division of labor is better appreciated, and more generally applied, there will be still less necessity for one person to attempt to qualify herself for instructing in every thing. Some have a peculiar talent for the acquisition of languages, some for the mathematics; others for the natural sciences; while in some, a talent for music or drawing is pre-eminent. When, therefore, the groundwork of an English education is laid, it would be well to follow nature in pursuing those studies to which the mind seems most strongly inclined, and thus excellence in some one branch may be attained. A young person thus qualified, may be also certain of finding an advantageous situation as an assistant in a public institution, or in private education, though an exclusive cultivation of a particular talent would not fit her for the general superintendence of a school.

But no accomplishments, literary attainments, or moral worth, can ensure success in education, without that tact which will enable the teacher to comprehend the characters of her pupils, to gain their affection, and to control and influence their prejudices and prepossessions. This indeed is not the work of a day, or a month; indeed, those teachers who ultimately gain the greatest ascendency over their pupils, may, for a time, seem to have made little progress toward this end; while more superficial persons, by assuming, at first, an appearance of great softness of manner, by caressing and patting the little dears, may be admired as *very lovely, very amiable teachers;*—but young persons are not slow in detecting any attempt at deception; they soon learn to consider all this fondness as a sort of mannerism, assumed merely for effect, and whenever they get such an impression, they give those who have the charge of them little credit for any sincerity. A person of good judgment will not then begin with her pupils by flattery or caresses; she will endeavor to define their duties with precision, and will seek at first to inspire respect rather than love, knowing that the former once secured, the latter will easily follow.

In the two examples which I have given of the mode of commencing the duties of a teacher, we perceive, in the one case, the superstruction begun before the foundation was laid, of course it must fall;—in the other case, a broad and firm base is established, and upon this may be raised a structure in which discipline, confidence, and affection, will all be combined in beautiful harmony and proportions.

Power involves duty; and in no case is this truth more applicable than in that of a teacher, who, vested for the time, with unlimited authority, is yet deeply responsible for the use of it;—possessing vast influence over the young mind, how much has the teacher to answer for, if this influence is improperly exercised! To parents, to the public, to their own consciences, and to God, are teachers accountable for the proper discharge of their duties. Let none, therefore, lightly esteem the qualifications for such an office; let none engage in it but such as are willing to submit to trials, vexations, and self-sacrifices, and who, counting not on the gratitude of man, can look beyond this world for the reward of their labors.

The following letter was written two years after the close of the author's connection with the Seminary, at Troy; it is one of several communications addressed to the pupils of that institution, about the same time, at the request of the principal. This is the only one in the author's possession, and is published as a tribute to the memory of several deceased pupils, and with the hope of benefiting the young, by reminding them of the frailties of earthly expectations:

LETTER

TO THE PUPILS OF THE TROY FEMALE SEMINARY.

Mont Cervus, Guilford, Vt. Oct. 3, 1833.

MY DEAR YOUNG LADIES:—

I imagine you now collected, according to the custom of the institution, to hear the words of advice and admonition—but, knowing that at this time, your principal is occupied with some engagements which must necessarily take her thoughts from ordinary duties, and feeling a deep interest for your welfare, and that of the institution with which you are connected, I am led to offer you at this time a few thoughts, which, though but a poor substitute for what you might have expected, may, nevertheless, be of some interest.

I imagine myself looking round upon you, as, little more than two years ago I was accustomed to behold the lovely group, which, on this occasion, assembled for instruction. But I see a change—new and strange faces appear before me, and many familiar ones are not here. Where is Jane Vail? She was not wont to be absent where instruction was to be had, or a duty performed. First in her classes, and first on the conduct list,[*] her presence was ever welcome, and encouraging to her teachers. In the places you now occupy I was accustomed to see this lovely girl—and often, when my heart was pained by the levity and inattention of others, I looked upon her, with a countenance intelligent, serious, and affectionate, listening with earnest and serious attention, and I felt encouraged—I felt that all my labors and cares were rewarded by *one* such scholar. Never, my dear young ladies, did a look or an action, unbecoming the occasion, appear in Jane Eliza on the public assembling of the school. But most of you know all this—in the annals of this Institution her exemplary conduct is recorded ; new scholars will hear of her patient industry, her attention to rules, and her attainments, and many, it is to be hoped, will be emulous to follow her example. She does not now meet with you ;—the bell, whose call she was prompt to obey, no longer brings her to bless the sight of teachers and companions; we shall see her no more in this world, for she sleeps in dust, and the grass is now green over her grave. Would that I could kneel upon that sacred spot, and there pray that my own children, and each one of you may, at death, leave to the world the blessing of such an example.

Those of you who were present at my course of Lectures in 1831, or who have perused them since their publication, may remember my remarks on the character of Elizabeth Smith, of England ;[†] when I alluded to that interesting female it was with the consciousness that among those who heard me was one, the character of whose mind and heart was strikingly similar. As Jane Eliza Vail is now beyond the reach of human praise, or envy, I may say this without fear of injuring her, or offending others.

At the age of seven years, she commenced her education at the seminary. Her first studies, besides some of the primary English branches, were the Latin and French languages. At the age of twelve years, she had become familiar with the Latin grammar, Liber Primus, Latin Reader, and other Latin elementary books, Cæsar and Virgil. She was a thorough French scholar, writing and speaking the language with ease and accuracy. She had, at this time, at successive public examinations stood at the head of the classes, in English grammar, arithmetic, ancient and modern geography, and history; she had passed examinations in chemistry, where she had given her own lectures with experiments; she had also pursued with attention and success the study of botany, both practically and theoretically.

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[*] No credit is given in the Seminary for scholarship, but for the faithful performance of certain duties ; fault marks are given for the breach of rules ,—those who have fewest faults, and most credit marks, are highest on the conduct list.

[†] See page 120.

From twelve to fourteen she studied the Spanish, and the elements of the Greek languages, and distinguished herself in natural philosophy, algebra, geometry, rhetoric, logic, and moral philosophy. She had been a faithful pupil in music, and had made herself familiar with its scientific principles. To a natural taste in drawing, she had added close attention to rules and faithful practice, so that she executed in this art with taste and skill. Combined with so many solid and elegant acquirements, was a sweetness of disposition, and modesty of deportment that disarmed envy and secured attachment. No less correct in morals than elevated in intellect, she seemed deficient in no quality which might be desirable for this world, and in this view we might have asked, "What does she yet lack?" But she was led to reflect that there was another world, which demanded other preparation. She saw herself a sinner in the sight of God, humbled herself before Him, and was led to hope for pardon and acceptance through the merits of a Redeemer. Thus, to conclude in the words on a former occasion applied to Elizabeth Smith, "did this character, so perfect in intellect, so pure and amiable in morals, possess also that crowning ornament, piety, without which, as a whole, it would have been imperfect. And alas! Like Elizabeth Smith, has she been called to an early grave;" but the embalming spirit of religion had anointed her body for burial, and preserving, in all their loveliness, the beautiful lineaments of her mind, prepared it for a high station among those pure and holy intelligences who differ in degrees of knowledge and happiness as "one star differeth from another star in glory."*

Where is Maria Williams? Lovely and graceful in person, brilliant in intellect, and noble in moral qualities, she seemed one of nature's favorites; to these endowments were added a high standing in society and an affluent fortune; a splendid career in life was marked out for her, by fond and admiring friends. What young person can boast of more worldly advantages than Maria Williams possessed? And yet, she is no more! The voice of earthly music is now mute with her, whose light touch upon the piano, and whose sweet tones of voice once gave delight to those who heard, and pride to her who enjoyed these powers; but those who in heaven are to have golden harps put into their hands, who are there to tune angels' lyres, must be fitted for this by a *practice*, not upon instruments of music, but the practice of Christian virtues, by faith and humility.

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* See lecture, page 108.

Where is Frances Emmons? Strong in intellect, ambitious of high attainments, and pressing forward with determined resolution to overcome obstacles in the way of intellectual eminence, she was an honor to the institution, and gave the promise of being useful in the world; but, she too is gone!—gone where human learning, alone, can be of little use. But we trust she was a scholar in the school of Christ, and has been received into mansions prepared for those who have loved and served him on earth.

The place of another who once listened in these seats is vacant. Lucy Phelps was a fellow pupil and an associate with those I have named; she was accustomed to meet them in the recitation room, at table, and at the hour of prayer; with them, she is now in eternity! But their disembodied spirits may even now hover around this spot, once so dear to them, and watch with deep interest the effect of their early deaths in bringing to reflection their thoughtless companions. Lucy Phelps has left an example worthy of imitation. Have any of you a brother or younger sister to instruct and advise? Like her, may you be patient, kind, and faithful to do your duty towards them. Have any of you a step-mother? Oh, could you know how respectful and attentive she was to one who stood in this relation to her, you could learn the way to make yourself beloved by that mother, and useful and interesting to her. What Lucy was, as a scholar, many of you well remember, as scarcely six months have passed since she stood among you, in some respects, without a rival. In the American Ladies' Magazine[*] you will find a sketch of her character, which though brief and imperfect, may serve to give some idea of the variety of talents she possessed, of the manner in which she applied these to praiseworthy objects and pursuits, and especially of her amiable deportment and usefulness in domestic life. What I now say of her, I often said when she was living. Death does not alter the nature of actions, or of characters; if your life be not lovely and useful, death cannot add to the recollection of it charms which it never possessed. Though it is hard for us to part with friends who are interesting and promising, it is still harder not to be *able to mourn* for those we love; that is, not to feel that we have sustained a loss by their death.

Nor have the pupils I have named been all that this institution has lost within a few years.[†] Many of you were not acquainted with Mary

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[*] See Ladies' Magazine, Vol. VI.

[†] Neither of the young ladies whose names are here mentioned died at the seminary; it is a remarkable fact, that not one pupil, among the numbers who throng there for education, has been removed by death, while in the family of Mrs. Willard.

Treat. But those who are now strangers will not long be here without hearing of her meek virtues; and how, in the bloom and loveliness of youth she was taken from her station as a teacher, to be a companion of angels. To me, it seems but as yesterday, since I saw her, a pupil, sitting where you now do, and listening with an anxious desire to learn her duty, while her countenance bore witness that her heart enjoyed peace; that peace "which as the world cannot give, neither can it take away;" when I think of all these, who were younger than myself, whom I have instructed, and sought to fit for usefulness in a world they were destined so soon to leave, I feel, indeed, that human life is but "a vapor that continueth not." And can it be that you, my dear girls, will not be led to reflection upon the end and aim of human existence?

You are now beginning a new school term. Many of you are at a distance from your parents, who have seen you depart from your homes with anxious solicitude: some of them are, perhaps, embarrassing themselves to give you the means of education. Their thoughts and their prayers follow you. They are comforted in your absence by the hope that every day is adding something to your stock of knowledge, and that you are improving in your tempers, your morals, and general deportment. Are there none of you who, in thinking of home, are pained with the thought that you did far less than you might have done, to render that home pleasant, and its dear inmates happy? Were you never peevish and obstinate, insolent, or idle and indifferent to the comfort of others? Did you never use unkind words towards your brothers or sisters, or injure the feelings of some faithful and affectionate domestic? When you think of home, O, how do you now wish you had, in many things, done differently!—and so will it be with you, my dear girls, when you shall have left this place and returned to your homes. Your misspent hours, your unkindness to your companions, and your ingratitude to those who watch over you, will then give you deep and bitter regret.

But I would fain hope that each one of you is now resolved that you will so spend your time in this institution, as may advance the object for which you were placed here, and render you an honor to your family and to the school. Of one thing you must be certain; do as you may, you will soon establish for yourselves a character either for good or bad; you will be called amiable or unamiable, industrious or idle, modest or assuming, neat or untidy in your habits. Your rank in point of intellect will also be fixed. You will be considered as either brilliant or dull, capable or stupid. But though all may not be able to distinguish themselves for intellectual endowments, each one may so conduct as to gain the approbation of her teachers, and the love of her companions; every one can gain a *good name.*

It is but a short time since two of your number, who were passing their vacation with me, were anticipating their re-union with a fond father, their only parent, who was toiling in a distant country to secure for his children affluence and an honorable station in life. He says, in a letter received by them, after his death: "I shall soon return to you, and then we will all live together wherever you would like to settle." These young ladies are now orphans, and will be cared for by the world, only as they are capable of being useful in it. Who among you are secure from sudden reverses of fortune! What you now learn as accomplishments, may be the means of your future support; and, although attainments which have reference to this world only, are of little importance when compared with the qualifications which will fix our future destiny, yet the former are necessary for us in our sojourn here; and we usually find, that those who are most faithful and industrious in respect to the things of this world, are most careful to lay up treasures in heaven.

Your truly affectionate friend,

Almira H. L. Phelps.

PARTING HYMN,

Sung by the Pupils of Troy Female Seminary, at the close of Examination, Feb. 16, 1831.

Sisters! We are now to part!
Long we've travel'd hand in hand;
Affections, twined around the heart,
Have gather'd close our happy band.
Love has smoothed the rough ascent
Of learning's steep and arduous way,
Giving us, as on we went,
A peaceful and unclouded day.
CHORUS.
Partings shall cease,
In the land of the blest;—
There may we meet,
For ever to rest.

Sisters! Moments hasten on,
And yet our toil's not wholly done;—
Thanks we owe to many here,
For a patient, list'ning ear;
But chief to *those* our grateful praise
In music's swelling notes we'll raise,
Whose watchful and untiring care
Has help'd to form us what we are.
CHORUS. Partings shall cease, &c.

Sisters! We see a broken band!
For *she** is in a foreign land,
Who first our grateful love might claim:
Oh, loved and honor'd be her name.
And *one*,† the gentle and the good!
We see her not, where late she stood;

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* Mrs. Willard, the Principal, was then in France.

† Mary Lydia Treat, a niece of the author, and the adopted daugh-

Her faithful labors all are done:
Heaven has taken back its own.
Chorus. Partings shall cease, &c.

Sisters! Let our thoughts arise,
Upwards to Him who rules the skies!
To Him, our blessings all we owe,
To Him should our affections flow!
Then will He guide our wand'ring way
To regions of eternal day.
Father in Heaven, we bow to thee!
Oh, may our praise accepted be.
Chorus, Partings shall cease, &c.

HYMN,

Sung by the Pupils of Troy Female Seminary, at the close of Examination, Aug. 3, 1831.*

Join in solemn notes of praise;—
Let grateful accents swell our lays,
Favor'd daughters of a land
Guarded by Jehovah's hand!
Chorus. Blessings crown our youthful days,
Thine, O God, be all the praise!

On our intellectual sight,
Science bursts with dazzling light;
Woman's reason, free to soar,
Error's chain shall bind no more.

---

ter of Mrs. Willard. After pursuing a thorough and extensive course of education, she became a teacher in the institution, in which capacity she exhibited a rare combination of meekness with decision, a dove-like softness with the most rigid faithfulness in the discharge of duty, a childish playfulness and gayety, with deep and fervent piety.—The examination room was at this time hung with black, the teachers dressed in mourning, and the pupils in half mourning, for the recent death of one, whom all lamented as the "*Gentle and the Good.*"

* At which time terminated the author's connection with the institution at Troy.

CHORUS. Blessings crown our youthful days,
Thine, O God, be all the praise!
Let our *hearts*, too, rise above,
Glowing with a Saviour's love;
Let our early hopes ascend
To an everlasting Friend.
CHORUS. Blessings crown our youthful days,
Thine, O God, be all the praise!

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